



**QUEZON CITY**



# 2018 Ecological Profile

## PREFACE

*I*n a continuing effort to provide relevant information, the City Planning and Development Department (CPDD) has come up with the 2018 edition of the Quezon City Ecological Profile. This edition is an update of the past issues containing statistical tables and technical analyses based on the latest data available at the time of preparation. Efficacy of which is grounded on certain built-in limitations in that the Profile simply is a snapshot of Quezon City at a given point in time and precludes any appreciation of change, much less the seeming magnitude of that change. In some areas of concern, data are not available, nevertheless, estimates are provided to meet the demands of the users.

As a valuable tool in planning and policy-setting towards effective governance and public service, the 2018 Quezon City Ecological Profile (variously called “Socio-Economic Profile”, “Socio-Economic and Physical Profile”, or “Socio-Ecological Profile”) aims to serve as the main database for the comprehensive planning of the City. Also, the year 2019 is an election year and it marks a brand new term for this administration at all levels of political jurisdiction. In a very real sense, the data compiled in this Ecological Profile represent, to a significant degree, the accomplishments of previous administrations and the effects and outcomes of said accomplishments. The incoming administration may also use the updated data to continuously innovate new programs that will have the effect of building and improving on the record from previous terms. This will ensure continuity and progress of the City.

While this updated Ecological Profile was prepared principally for use in planning and policy making by responsible officials, staff members, and departments of the city government, it can likewise be used by other readers for their own purposes. The compilation of data contains minimal analysis and interpretation to allow different users to apply their own analytical frameworks to extract the desired interpretations and conclusions from the same data sets. High school and undergraduate college students will find the Profile a rich resource for school reports and term papers. For graduate students, the Profile can be an aide in identifying areas for in-depth investigations towards the production of theses and dissertations.

The Ecological Profile is a comprehensive collection of information about practically every aspect of Quezon City. As such it should be open to a wide range of readership. Even casual visitors who happened to pick up a copy may find a wealth of detail between covers interesting enough to make them want to take a

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second look. Movers and migrants who, by chance or by choice, have taken up residence in the city may find in the Profile enough advantages of staying in Quezon City to make them decide to become permanent residents. Old-time residents may yet find new and unique features of their city and rekindle their sense of loyalty and pride of place.

The production of this document owes in large part to the painstaking efforts of the different sectoral committees anchored by the respective technical staff members of the Quezon City Planning and Development Department. That this latter office had to play a key role owes to the current practice among local governments to prepare or update the Profile in conjunction with the larger project of preparing their mandated plans. This explains why the Profile contents are organized under the five development sectors. However, this need not be so for long if the Profile is envisioned to reach a wide range of readership. While the traditional sectors are mandated to maintain and update their respective data holdings as basic inputs in comprehensive development planning other topical headings are expected to be added in future editions of the Profile. This opens the door for other elements of the city's constituencies to contribute to its contents, take part in its production and maintenance and, utilize the data sets for a variety of purposes. In terms of form and style, too, a book of facts such as the Profile need not be one of hard and dry reading. This 2018 edition of the Ecological Profile of Quezon City, finally, aspires to set another good practice, after the benchmark provided by the 2015 edition, among local governments in the Philippines.

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The Envisioned  
City of Quezon

1

# CHAPTER 1: The Envisioned City of Quezon

## 1.1 THE ENVISIONED CITY OF QUEZON

Quezon City was an upshot of the vision of the late President Manuel Luis Quezon, a man beyond compare, who dreams of a central place that will house the country's highest governing body and will offer the less privileged sector of the society low-cost but decent housing. He envisioned the growth and development of a city where the common man can live with pride and dignity.

*"I dream of a capital city that, politically shall be the seat of the national government; aesthetically the showplace of the nation--- a place that thousands of people will come and visit as the epitome of culture and spirit of the country; socially a dignified concentration of human life, aspirations and endeavors and achievements; and economically as a productive, self-contained community." --- President Manuel L. Quezon*

Just as inspired by this noble quest for a new metropolis, the National Assembly moved for the creation of this new city. A proposed law was initially filed by Assemblyman Ramon P. Mitra with the new city to be called as "Balintawak City." Soon after, the intended name was changed to "Quezon City" on the motion of Assemblymen Narciso Ramos and Eugenio Perez, both of Pangasinan.

## 1.2 THE CREATION OF QUEZON CITY

On 28 September 1939, the National Assembly approved Bill No. 1206 as Commonwealth Act No. 502, otherwise known as the Charter of Quezon City. Signed by President Quezon on 12 October 1939, the law set down the borders of the city and allotted it an area of 7,000 hectares carved out of the towns of Caloocan, San Juan, Marikina, Pasig, and Mandaluyong, which at that time are all situated in Rizal Province. Correspondingly, the law spelled out the courses of action in which the city was to be governed, with all the city officials to be appointed by the President. Quezon himself doubled as the city's first acting Mayor from 12 October to 04 November 1939, after which Tomas Morato, who was then the mayor of Calauag, Tayabas, was appointed as his successor.

The original physical plan of Quezon City – which was prepared in 1940 by then architectural adviser of the Commonwealth Harry T. Frost – reflects a big quadrangle in the heart of the city, from which four avenues radiate toward the outskirts with rotundas placed on the four corners, the largest being the 25-hectare elliptical center, now known as the Quezon Memorial Circle.

Progress in Quezon City continued until the outbreak of World War II on 08 December 1941. Just before the Japanese occupied the city, President Quezon issued Executive Order No. 400 on 01 January 1942, incorporating Quezon City with Greater Manila for synchronized and coordinated activity in such time of emergency. Under the order, the mayors of Quezon City, San Juan, Mandaluyong, Parañaque, Caloocan and Makati became the assistants to the mayor of Greater Manila, who at that time was Jorge Vargas. Then again, when Mayor Morato was arrested by the Japanese forces in mid-1942, then City Health Officer Dr. Florencio Cruz was installed as chief of the city (being a district of Greater Manila) until liberation.

Immediately after the war, Secretary of Interior Tomas Confesor designated in April 1945, then Assistant Fiscal of Manila Oscar Castelo as acting mayor of Quezon City, and so, assistant to Manila Mayor Juan Nolasco. The house of President Quezon on Gilmore Avenue was used by Castelo as temporary office of the city government.

Capt. Sabino de Leon, former police chief of Quezon City, was designated as acting assistant city mayor on 01 October 1945 while Castelo returned to his previous post. Capt. De Leon relocated the city government offices to a market site along South 9th Street near Sampaloc Avenue (now the site of Roces High School). On 02 January 1947, Quezon City regained its separate political existence from Greater Manila by virtue of Republic Act No. 45, and so the appointment of Ponciano A. Bernardo as city mayor.

### **1.3 QUEZON CITY AS THE CAPITAL CITY**

Following his assumption of office as the first president of the second Philippine Republic in 1946, President Manuel A. Roxas announced his intention to re-establish Quezon City as a regular chartered city. Some sectors have expressed their disapproval by citing the city's economic and financial breakdown, dismal health and sanitary conditions, along with high rate of criminality during the post-war period.

On 25 July 1946, President Roxas, created a committee that would study the selection of the country's official capital. By virtue of Administrative Order No. 5, the committee was tasked to decide on the "most suitable site on which to build the capital city of the Philippines and the capitol building/s." Then Senator Melecio Arranz, who was appointed committee head, asserted that Manila, although inevitably a key point in the choice of the capital city site, has "become undesirable as a national capital" due to postwar damages, congestion of commercial activities, and government and military requirements, among others. Quezon City, on the other hand, had previously transcended the reparation of post-war vestiges.

The selection process underwent series of extensive studies, researches, discussions, and public hearings, which primarily focused on the following considerations: general sanitation; public works development; strategic considerations; scenic beauty; and administrative coordination. Out of the sixteen (16) nominated sites, three emerged as the top choices: Ipo-Novaliches area; Baguio; and, Quezon City-Novaliches. The contiguous areas of Ipo-Quezon City-Novaliches proved to be the ideal choice for the nation's capital, just as it garnered the highest composite average rating over the second placer Baguio. Consequently, the Arranz Selection Committee concluded: "...the area now covered by Quezon City extending northward along Marikina River to the upper limits of Novaliches reservoir watershed, [and] West to the boundary line...comprising an approximate total area of 16,200 hectares...one-fourth of which is owned by the Government, is the best...[site] to be made as the Capital City of the Republic."

The committee also alluded to the city's perceived advantages as the choice nation's capital:

- "[The City's] proximity to Manila, the best port of entry from foreign countries and the commercial and financial center of the country...;
- Its accessibility from all the important inhabited areas in the Philippines either by land, air, sea;
- Its already available conveniences from the standpoint of a municipal entity...[-as an organized and partially developed chartered city];



However, even before the selection was made, President Roxas died of heart attack in Clark Field, Pampanga. It was his successor, President Elpidio R. Quirino, who signed on 17 July 1948 Republic Act No. 333 that made Quezon City the capital of the Philippines. The Act also created the Capital City Planning Commission to make plans for, and take charge of, the general development plan as well as on the improvements to be done in the Capital City. Archt. Juan Arellano headed the architectural division of the Commission while Mayor Bernardo handled public relations. After almost a year, President Quirino eventually signed the Master Plan on 08 April 1949. It further stipulated “the appropriation of funds for the acquisition of private estates within the boundary limits of the city, and authorized the issuance of bonds... for the construction of streets, bridges, waterworks, sewerage...” and other city improvements.

On July 1947, the City Hall building was constructed along Highway 54 (now Epifanio delos Santos Avenue or EDSA) on what used to be the site of a pre-war public market. It was officially operational on February 1948, housing all of the city government’s offices and departments with the exception of the police department.

Quezon City was formally established as the national capital of the Philippines on 12 October 1949. Almost immediately, President Quirino laid the cornerstone of the planned Capitol Building at Constitution Hills. Soon after, the Welcome Arch (now Mabuhay Rotunda) at the boundary of Manila and Quezon City was built. Later on, the construction of the 1,104 housing units in the 40-hectare Roxas Homesite started, with the Philippine Homesite and Housing Corporation as developer.

The city’s territorial boundaries were adjusted at least four times from the time when it was established on 12 October 1939. At first, Quezon City had only about 7,000 hectares extending from La Loma to Marikina River and from Pasong Tamo River all the way through Wack Wack Golf Club in Mandaluyong. It was first amended in 1941 by Commonwealth Act 659, which returned the portions west of Marikina River to Marikina, a reduction of roughly 500 hectares. After the war, RA 333 dated 17 July 1948, which declared the city as the national capital, considerably expanded the territory by more than double – from 6,500 hectares to 15,660 – by adding in the areas of Novaliches and Payatas. The third revision again decreased the city’s area by about 300 hectares in 1950 via RA 537, when parts of the territory east of Marikina River were given back to Montalban and San Mateo, as well as Wack Wack and Camp Crame to Mandaluyong and San Juan, respectively.

The final modification was made on 16 June 1956 by virtue of RA 1575, further reducing the city’s area by 260 hectares from 15,359 to 15,106 hectares, when areas west of Marikina River were again taken back by Montalban and San Mateo, even as Camp Crame was reintegrated to Quezon City. At present, this is the official territorial boundary of Quezon City. Even if graphical plots made on this existing boundary gave an area of 16,112 hectares, it is still about 1,000 hectares more than the officially declared land area

**Table H-1: Changes in Land Areas of Quezon City**

	Commonwealth Act 502	Commonwealth Act 659	Republic Act 333	Republic Act 537	Republic Act 537
Date Approved	October 12, 1939	June 21, 1941	June 17, 1950	June 16, 1950	June 16, 1956
Land Area	7,006 has.*	6,497 has*	15,660 has.	15,359 has	15,106 has. 16,112 has*

\* Figures obtained thru graphical computations only

\*\* Based on 1995 GIS graphical plot

## 1.4 CHANGING FORTUNES OF QUEZON CITY

Quezon City held the distinct status of being the nation's capital for 27 years. However, two Presidential Decrees issued by then President Ferdinand E. Marcos substantially changed the political stature and landscape of the city.

Presidential Decree 824 paved the way for the creation of both the Metropolitan Manila and the Metropolitan Manila Commission that would wield territorial and political jurisdiction over seventeen (17) municipalities and cities, including Quezon City. The Decree was deemed imperative owing primarily to "rapid growth of population and...of social and economic requirements in the contiguous communities." Moreover, it was expected to address the need for integrated development, service delivery, and management in terms of peace and order and eradication of social and economic ills that were considered then as among the reform measures under Martial Law.

It was around this period that the city achieved an impressive performance record, under the leadership of appointed mayor Norberto S. Amoranto, in terms of: financial standing; delivery of services, particularly on medical and health concerns; establishment of buildings; and community beautification projects, which were also supported by then First Lady Imelda R. Marcos.

On 24 June 1976, President Marcos issued PD 940, which conferred back the role of the nation's capital to the City of Manila and mandated the area prescribed under PD 824 as Metropolitan Manila, now known as the National Capital Region (NCR), to be the permanent seat of national government.

Three months prior to this pronouncement, Quezon City set another record by having the first lady chief executive appointed to office after Mayor Amoranto resigned from his post. Mayor Adelina S. Rodriguez then led the city throughout the transition period when it was no longer the nation's capital. During her first year in office, Mayor Rodriguez formulated the now famous City Development Program that served as basis for integrating problem solution. Even with limited resources, Mayor Rodriguez underscored the importance of the city's mandate in terms of employment generation and delivery of basic services. With the successful implementation of the city's Seven-Point Management Program, which is projected to result in "community awareness and consciousness of maintaining ecological balance," the city also achieved significant strides moving forward, vis-à-vis income generation and crime reduction.

After a while, President Marcos issued Letter of Instruction (LOI) No. 473, under which the Constitution Hills and Reclamation Areas, both situated in Quezon City, were designated as the site of the country's parliamentary building or the Batasang Bayan, along with other government offices such as the Department of Education and Culture (DEC) and the Civil Service Commission (CSC).

Occupying more or less one-third of Metro Manila's total land area, Quezon City proved to be a vast and teeming city. Even as it was no longer the capital city, it has deftly brought to fruition its development plan and so, achieving a steadily increasing income. Having the inimitable status of being the country's government center, it thrived perfectly as such in housing the national legislature and a number of vital government offices. Each and every aspect of these is reminiscent of the same noble dream that brought forth the founding of Quezon City.

## 1.5 CAPITALIZING ON THE “QUEZON CITY” VISION

The original vision of President Quezon became the thread that weaves, and will continue to weave, an extremely vibrant and rich past, present, and future for the city.

Important people, places, and events that shaped the course of history in the struggle for self-determination and sovereignty, including the “Cry of Pugad Lawin” led by the Great Plebeian and revolutionary hero Andres Bonifacio, the People Power Revolution in EDSA that toppled the regime of President Marcos and the installation of President Corazon Aquino under the restored democracy took place in areas that now comprise the city.

Currently, Quezon City is the largest among the Metropolitan Manila’s cities in terms of population and land area. The “Quezon dream-vision” continues to guide efforts for the attainment of a progressive and peaceful, clean and orderly place conducive and hospitable to living, employment, and business – “A Quality Community that is Quezon City”.

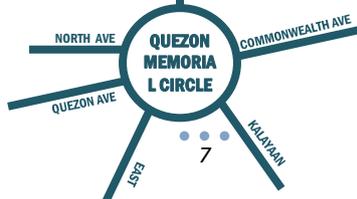
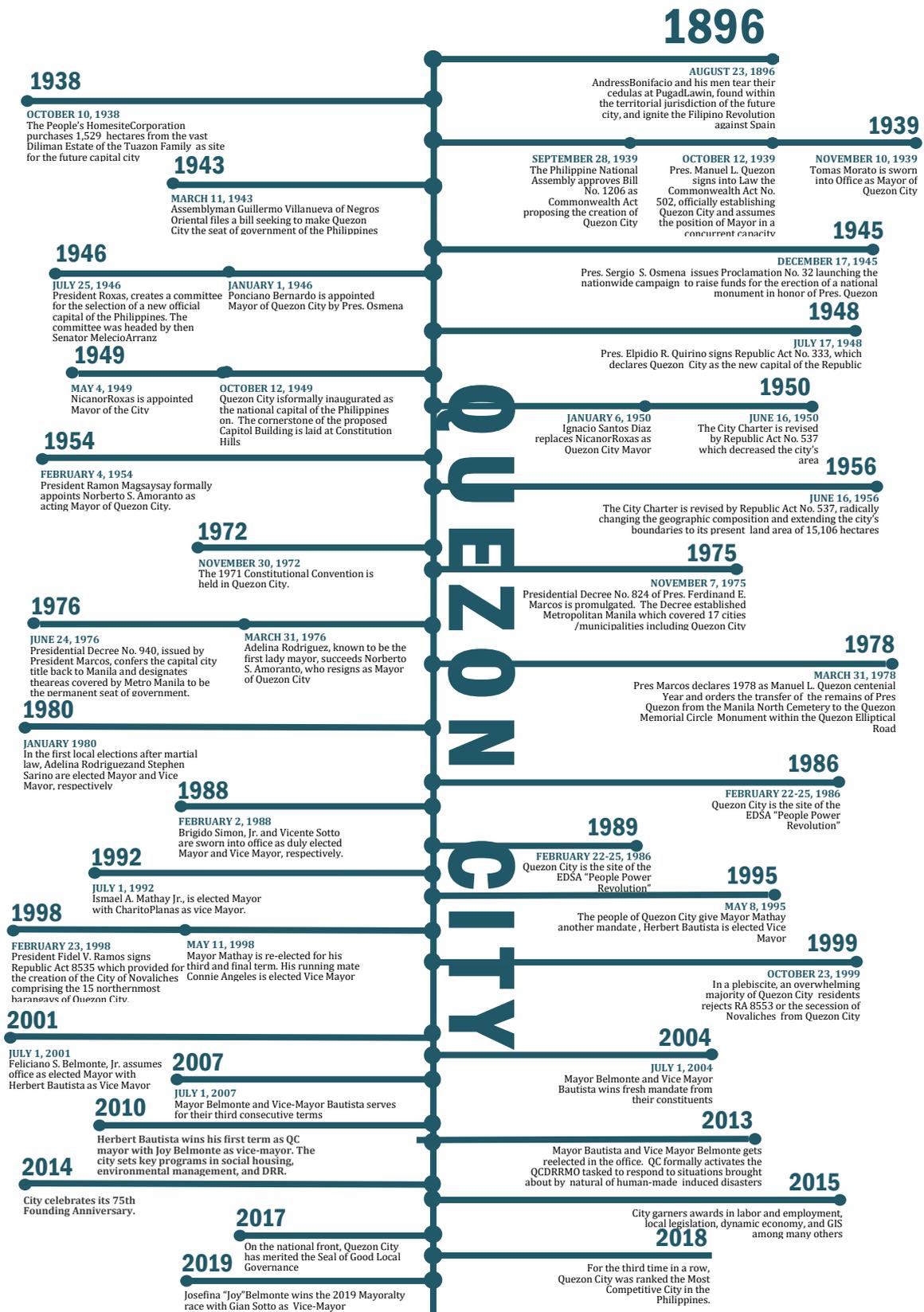
Systematic and cost-effective fiscal management, aggressive tax management strategies, ever-increasing efficiency and growing discipline in the management and use of resources as well as participatory governance have made Quezon City one of the most competitive cities in the Philippines right now. In particular, the city recorded the highest net income in the country, produced an annual budget surplus averaging P307 million for seven consecutive years from 2002 thru 2008, and earned an income of P8.02 billion in 2008. The city also takes pride in its strong economic viability and financial standing, rational development of systems to curb graft, rigid budgeting process that considers the city’s development planning strategies and priorities and the most pressing needs of its constituents.

The city has achieved several firsts in various areas as well, such as computerized revenue collection and assessment system, fiscal control and capability building in the barangay level, numerous environmental and solid waste management programs, women and children protection, and institutionalization of citizen participation in governance through the City Development Council.

Due to its achievements and innovations, Quezon City was recognized and cited for the dynamism of its local economy, the quality of life of its residents and the responsiveness of the local government in addressing business needs, among others. In 2007, Quezon City received the 7th place in the “Asian City of the Future” survey commissioned by the London Financial Times. In a 2008 Tholons Global Outsourcing and Investments special report, the city ranked as the 21<sup>st</sup> emerging global outsourcing city, the highest among all nine new entrants.

If truth be told, the city embodies the corresponding benchmarks for the nation’s capital. Above and beyond being the seat of the national government, it is also at the center of trade, commerce, education and culture. On top of having more than enough physical attributes of a modern city, it features contemporary and avant-garde transportation, communication and accommodation facilities and services.

# HISTORICAL HIGHLIGHTS: 1938 - 2019





# CHAPTER 2: Geophysical Profile

The Land Use/Infrastructure Sector has six areas of concern, namely: geography, topography, climate, land use patterns, service utilities, and transportation.

## 2.1 GEOGRAPHY

Situated on the northeast portion of Metro Manila, Quezon City is bounded on the north by Caloocan City and San Jose del Monte City in Bulacan Province, on the east by San Mateo and Marikina, on the south by Pasig, Mandaluyong, San Juan and Manila, and on the west by Valenzuela, Caloocan and Manila. Its northeastern and eastern borders are defined by the Novaliches Watershed and the Marikina River.

It is in close proximity to the National Capital Region’s major activity centers like Binondo, Ayala, Monumento, Ortigas, the Ninoy Aquino International Airport (NAIA), the North and South Harbor as well as the newly developed Fort Bonifacio Global City. With a total area of 16,112.58 hectares (based on 1995 GIS graphical plot), it is approximately one-fourth of NCR’s size, which makes it the largest among the region’s sixteen (16) cities and one (1) municipality.

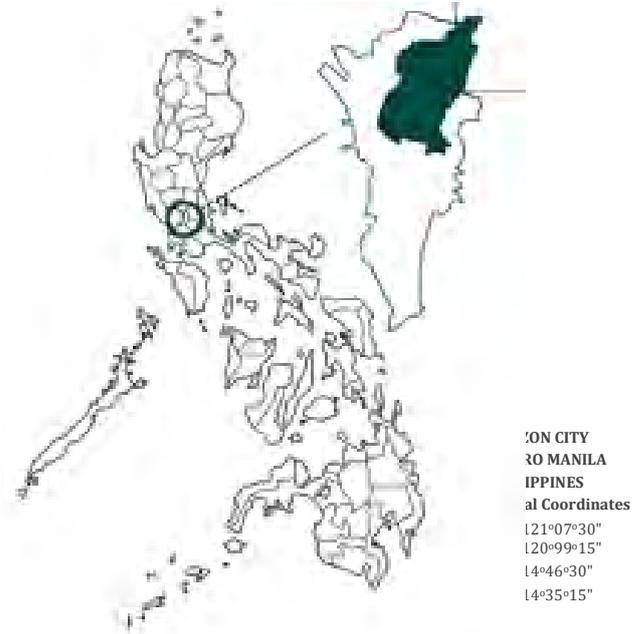


Figure GP-1: Location Map

## 2.2 TOPOGRAPHY

### 2.2.1 Slope

By and large, the city’s slope is rather manageable, ranging from less than 8% to 15%. A small, scattered area has a very steep slope suitable for parks and green area development.



Figure GP-2 Slope Map

### 2.2.2 Soil

According to a study conducted by the Bureau of Soils and Water Management (BSWM) of the Department of Agriculture (DA), the predominant soil type in the city is of the Novaliches Loam series, commonly called “adobe” and typically characterized as hard and compact. The quality of the soil varies as the depth gets deeper. (See Table GP-1)

Table GP-1: Relation of Soil to Depth

Depth of Soil (in ms)	Description
0-5	Brown, loose and friable loam to clay loam
6-20	Dark brown granular city loam with gravel and concretion
20-35	Adobe clay loam with concretion and gravel, highly weather stuff
36-60	Weathered adobe rock, slightly compact
60-plus	Compact and massive adobe rock

Source: Bureau of Soils and Water Management

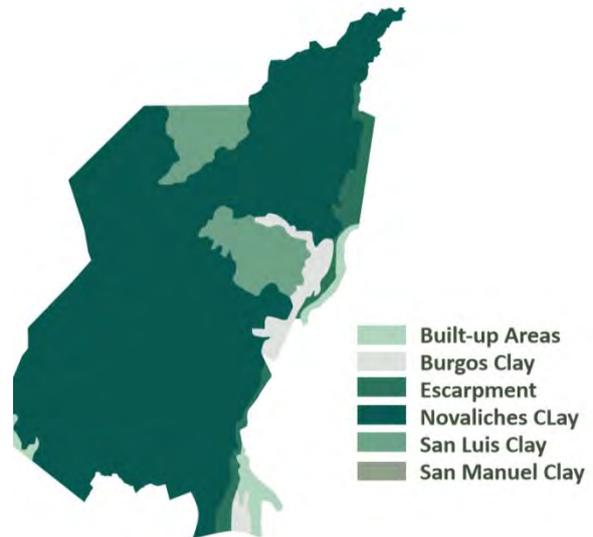


Figure GP-3 : Soil Map

### 2.2.3 Drainage

The city is drained through four principal river basins, namely: the San Juan-San Francisco River, Marikina River, Tullahan River and Meycauayan River. The San Juan River, which passes through the central and southern sections of the city, discharges to the Pasig River, along with the Marikina River that traverses along the eastern boundary. Conversely, the Tullahan River spills out to Tenejeros River in Malabon while moving across the Novaliches area. The creeks at the city’s northwestern-most portion, on the other hand, drain to the Meycauayan River. The ultimate drainage outfall of these river systems is the Manila Bay.

The San Juan-San Francisco River Basin encompasses the largest area of 80 square kilometers, extending from the city’s southern limits up to San Bartolome in Novaliches, and from Quirino Highway towards Marikina Valley ridge in the east, except for La Loma and Galas which slope down directly to the Pasig River.



Figure GP-4: QC River System Map

The outfall of marginal areas east of Marikina Ridge from Don Jose Subdivision near Fairview down to Corinthian Gardens in Ortigas Avenue is the 26-square kilometer Marikina River Basin. On the other hand, the Tullahan River basin, with an approximate drainage area of 28.94 square kilometers, serves most of the Novaliches District from Batasan at the east towards Caloocan City at the west, including Fairview and Lagro, and across Novaliches Proper up to Damong Maliit Road in Nagkaisang Nayon. While the 2,574-hectare Novaliches Watershed serves exclusively the La Mesa Reservation Area, the remaining areas at the northwestern peripheries drain to Meycauayan River.

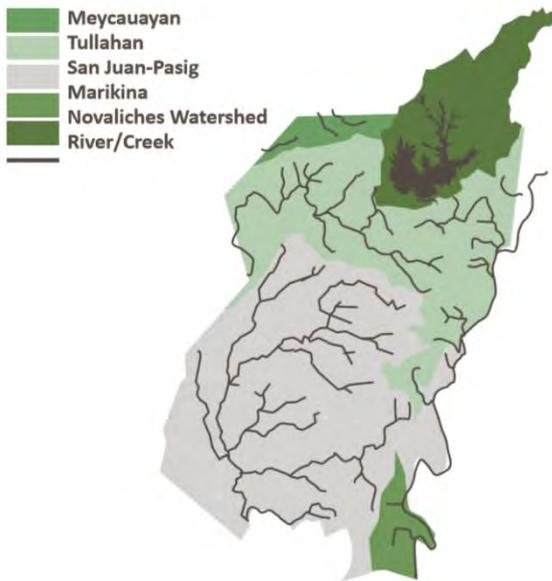


Figure CP-5. Drainage System Map

### 2.2.4 Groundwater Levels

As shown in the 1955 piezometric map, separating groundwater flow directions exist the northern part near Novaliches reservoir at +60 meter contour in the groundwater divide. One is towards the southeast direction to Marikina Valley and the other towards the southwest direction to Pasig River near the sea.

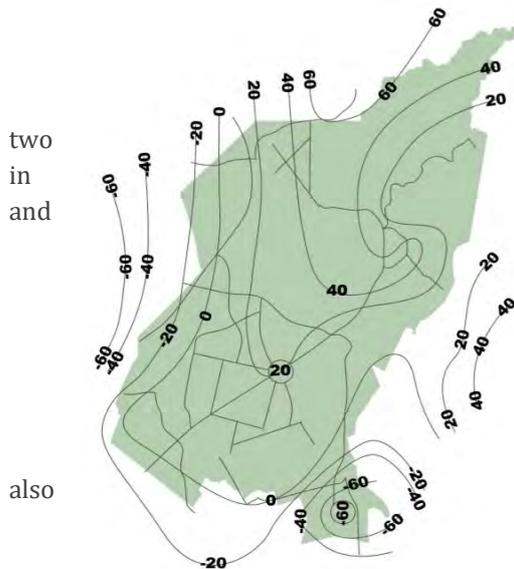


Figure CP-6. Piezometric Map

depressions.

Since 1955, the groundwater flow pattern has been severely altered due to excessive withdrawal of groundwater, which created cones of depression to the adversely affected parts of the aquifer. The 2004 groundwater level provided evidence of the worsened situation as increased groundwater abstraction resulted in deeper cones of

## 2.3 CLIMATE

The climate in Quezon City is practically the same as that of the other cities in the metropolis, with a distinct dry season from December to April and wet season from May to November. Climatological values measured at the Science Garden Station of the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) from the periods 2016-2018 recorded a total amount of rainfall of 8,904.5 millimeters in the city. Maximum amount of rainwater at 786.8 millimeters was experienced in June 2018, while the minimum quantity was

in March 2016 and 2017 and February 2018, where no rainy day was recorded. The most number of 30-rainy day period transpired in July 2018. Over the three-year period, highest temperature occurred during the month of May, averaging at 34.6°C, with the lowest temperature noted during the month of February, with an average of 22.3 °C.

**Table GP-2: Climatological Values, QC, 2016-2018**

Month	Rainfall		Temperature							Vapor Pre	Rel Hum (%)	MSLP	Wind			Cloud Amount (okta)	No. of Days w/	
	Amount (mm)	No. RD	Max (°C)	Min (°C)	Mean (°C)	Dry Bulb (°C)	Wet Bulb	DW Pt	DIR				SPD	TSTM	LTNG			
JAN	19.5	4	30.4	20.4	25.4	25.1	22	22.7	24.3	76	1012	NE	1	5	0	0		
FEB	8.9	2	31.6	20.6	26.1	25.9	22	20.4	23.8	71	1012	NE	1	4	0	0		
MAR	22.9	3	33.3	21.6	27.4	27.4	22.7	20.8	24.3	67	1012	SE	2	4	1	1		
APR	35.1	4	34.9	23.3	29.1	29.1	23.9	21.9	26.1	65	1010	SE	2	4	4	4		
MAY	160.4	12	34.6	24.4	29.3	29.3	25.1	23.6	29	71	1009	SE	2	5	14	13		
JUN	311.6	18	32.9	24.3	28.2	28.2	25.3	24.3	30.2	79	1008	SW	2	6	17	13		
JUL	504.1	22	31.6	23.9	27.3	27.3	25	24.2	30.1	83	1007	SW	2	6	19	13		
AUG	526.8	24	31.1	23.9	27.1	27.1	25	24.3	30.2	84	1007	SW	2	7	17	9		
SEP	391.7	22	31.5	23.7	27.1	27.1	24.9	24.1	30	84	1007	SW	1	6	18	12		
OCT	312	19	31.3	23.2	26.8	26.8	24.6	23.8	29.4	83	1009	N	1	6	11	9		
NOV	155.5	14	31.1	22.4	26.3	26.3	23.8	22.9	27.7	81	1010	N	1	5	5	2		
DEC	83.9	9	30.3	21.3	25.4	25.4	22.7	21.6	25.7	79	1012	N	1	5	1	0		
ANNUAL	2532	153	32.7	22.7	27.1	27.1	23.9	22.7	27.6	77	1010	SW	2	5	107	76		

Source: PAGASA Station 430, Science Garden, QC

Latitude: 14°39' N

Longitude: 121°03' E

## 2.4 FAULT SYSTEM

Categorically, the West Valley Fault System has an effect on Quezon City as it runs along the city's eastern boundary from the down slope area east of Violago Parkwoods in the northeast to Bagong Silangan, Northview, Capitol Park Homes, Loyola Grand Villas, Industrial Valley Subdivision, and St. Ignatius to Green Meadows Subdivision in Ugong Norte in the southeast.

## 2.5 LAND USE PATTERNS

Quezon City's actual land use pattern remains predominantly residential with a combined total of 5,100 hectares, representing 31.6% of the City's territory of 16,112.58 hectares based on GIS (Geographic Information System) plotting. Residential uses include the 3,898 hectares (24%) of formal residential properties, 400 hectares (2.5%) of low-cost housing sites and 801 hectares (5%) of informal settlement sites. Except for the 2,500 hectares Novaliches Reservoir with water treatment plants therein, these residential uses are spread throughout the City, interspersed only by pockets of vacant lots.

Other urban functions according to area coverage are: Institutional uses at 1,226 hectares (7.6%) which comprise of school campuses (biggest are University of the Philippines, Ateneo



Figure GP-7: Fault System Map

University and Miriam College), hospitals (Veterans Memorial Medical Center, Lung Center of the Philippines and adjoining National Kidney Institute and V. Luna Medical Center are most visible in the map) government offices including barangay halls, religious institutions like churches, chapels, mosques, convents, formation centers (the Iglesia Ni Cristo complex being the largest cluster) and other similar land uses.

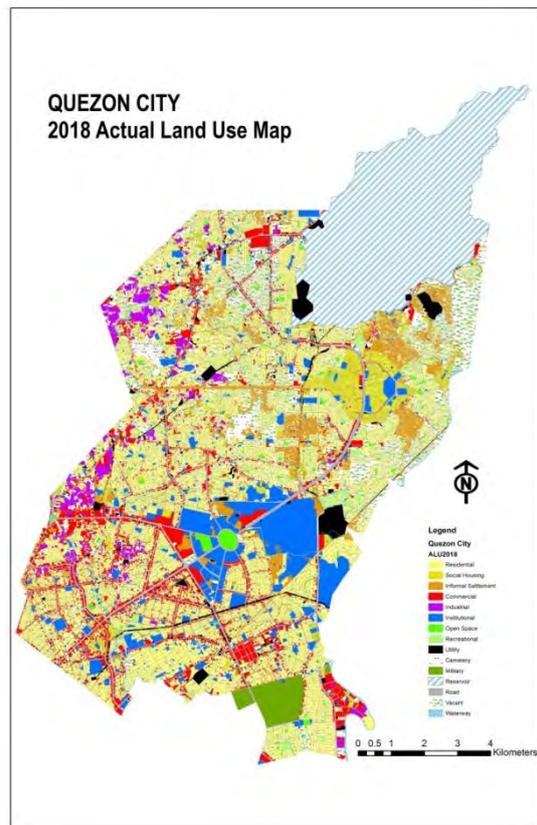
Next is Commercial uses with 1,212 hectares (7.5% of City area), an expansion of 214 hectares, are located mostly along main roads and in commercial nodes in several parts of the City. Small and micro scale commercial shops, stores and eateries can be found in almost all interior neighborhoods with noticeable clustering around schools, churches, hospitals, offices and transport terminals.

A decreasing trend was observed in the City's industrial area which, in 2018, has an aggregate area of 328 hectares, losing 37 hectares during the past decade. These industrial establishments are located in the districts of Balintawak and San Francisco del Monte, at western Novaliches, Sauyo and Ugong Norte areas.

Utility areas which include rights-of-way for aqueducts and power transmission lines, sewerage treatment plants and water filtration, treatment, reservoir and recovery facilities, the closed dump site, telecommunication facilities, garages and terminals for cargo and commuter

transport units, gasoline stations and slaughter houses uses 360 hectares (2%) of the City area.

The City's open parks and easements are also noted to have diminished by 14 hectares mainly due to roofed playground structures, community multi-purpose structures, chapels and the like. The roofed playground structures in open space lots are separately categorized as Recreational Uses in this inventory which showed an increase in land area by 13 hectares at its latest total of 130 hectares.



**QUEZON CITY  
2018 Actual Land Use**

USE	2018 (in has)	%	Increase/ Decrease from 2009
Commercial	1,211.97	7.52%	214.19
Cemetery	85.51	0.53%	5.69
Industrial	328.44	2.04%	-37.34
Institutional	1,226.28	7.61%	24.24
Informal Settlement	801.00	4.97%	61.64
Military	208.40	1.29%	0.00
Open Space	162.95	1.01%	-14.21
Residential	3,898.45	24.20%	336.41
Recreational	129.74	0.81%	12.91
Reservoir	2,485.71	15.43%	-4.30
Road	2,539.35	15.76%	66.73
Socialized Housing	400.10	2.48%	42.55
Utility	360.12	2.24%	32.36
Vacant	2,108.49	13.09%	-746.12
Waterway	166.06	1.03%	5.22
<b>TOTAL</b>	<b>16,112.58</b>	<b>100.00%</b>	<b>0.00</b>

With the expansion of most of the land functions, the City's remaining vacant lands, including vacant portions of residential, commercial and industrial properties, totals 2,108 hectares or 13% of the City area, a decrease of 746 hectares from 2009 to 2018.

### 2.5.1 Residential Development

Residential uses, comprised of formal residential properties including those under the socialized housing projects as well as the informal settlements, remain as the largest land function in the City and are showing a continuous growth trend. From 4,659 hectares in 2009 (29% of the City area) it has expanded to 5,100 hectares (31%) by 2018. (Note: these figures did not include the vacant portions in residential lots which were separately counted as part of vacant land spaces for possible future growth through in-filling.)

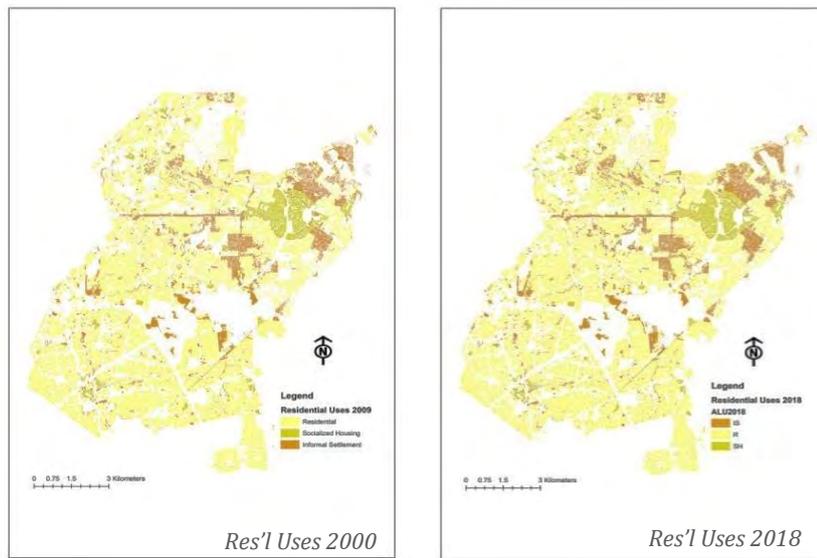


Figure GP-8: Growth of Residential Areas, 2000-2018

QC:

As of 2018, the formal residential properties have a total while informal settlements occupy 800 hectares. New residential subdivision developments took place mostly at the middle part of the City (Barangays Sauyo, Tandang Sora, Talipapa, Culiati, Pasong Tamo, Matandang Balara) while high-rise or condominium type of developments are noted especially at the southern half and some at the Lagro and Fairview areas in the north. Another growth trend taking place throughout the City is the construction of new houses in once vacant lots of existing communities and in the vacant portions of already occupied lots.

A total of 42 hectares were used in building new low cost housing units identified in the map as Socialized Housing sites. This is comprised of lot-only type of housing through the Community

Table GP-3 Actual Land Use Residential Uses, QC: 2000 to 2018 (in Hectares)

USE	2009	% to QC	2018	% to QC	Increase/ (Decrease)
Residential	3,562.04	22.11%	3,898.45	24.20%	336.41
Socialized Housing	357.54	2.22%	400.10	2.48%	42.55
Informal Settlement	739.36	4.59%	801.00	4.97%	61.64
TOTAL	4,658.94	28.91%	5,099.55	31.65%	440.61

Mortgage Program (CMP) or Direct Purchase mode of acquisition and the house-and-lot type. Walk-up housing was started to be adopted in City projects to accommodate more beneficiaries. The 388 hectares of the supposedly National Government Center which, in 1987 and 1998, were started to be developed by the National Housing Authority as housing of informal residents in the area, is the largest socialized housing site in the City.

There was a slight increase in the net area occupied by informal settlements (IS), from 740 hectares in 2009 to 800 hectares in 2018 or about 4.6% to 5% of the City area. Of the 800 hectares IS area, the largest share is in District 2 (296 hectares) next is District 6 (175 hectares) and District 5 (122 hectares). IS areas in District 1 totals 51 hectares, in District 3 has 52 hectares and District 4 has 104 hectares.

About 20% (156 hectares) of the total 800 hectares IS area are located in lots designated as road right-of-way (11%), within main water pipe lines or aqueduct (3%), in community park and open space lots (2%), within waterways and easements (2%) and in power main transmission lines (1.7%). While those occupying road lots increased by 6.45 hectares during the period, a significant decrease by 4 hectares on those in the aqueduct was noted due to the construction of the Luzon Avenue segment of Circumferential Road 5 (C5 Road) in Districts 3 and 6. Along waterways, a reduction in IS occupied area occurred in Districts 4, 5 and 6 by 0.7 hectares.

### 2.5.2 Commercial Development

Commercial areas in the City follow a multi-node ribbon-type pattern where neighborhood level businesses such as grocery and “sari-sari” stores, personal care shops, eateries, drug stores and the like line up along main community roads leading to major thoroughfares where district level businesses often comprising the likes of supermarkets, wet and dry markets, fast food chain stores, restaurants, banks, car dealers, offices, warehouses, hardware/construction supply and others are located and converging into a region level business area usually with the department stores and malls at the core.

Cubao, Balintawak and Novaliches are the old commercial hubs in the City that have considerably expanded in land area covered. The development and growth of North EDSA, Munoz and Sta. Mesa later followed. Later commercial node developments were at Ever Commonwealth, Bagumbayan towards Ugong Norte and at Lagro-North Fairview vicinity. The U.P. Techno Hub and Town Center, the Robinson’s Magnolia and Ayala Mall at Balintawak are among the latest establishments of significance to commercial growth in the City

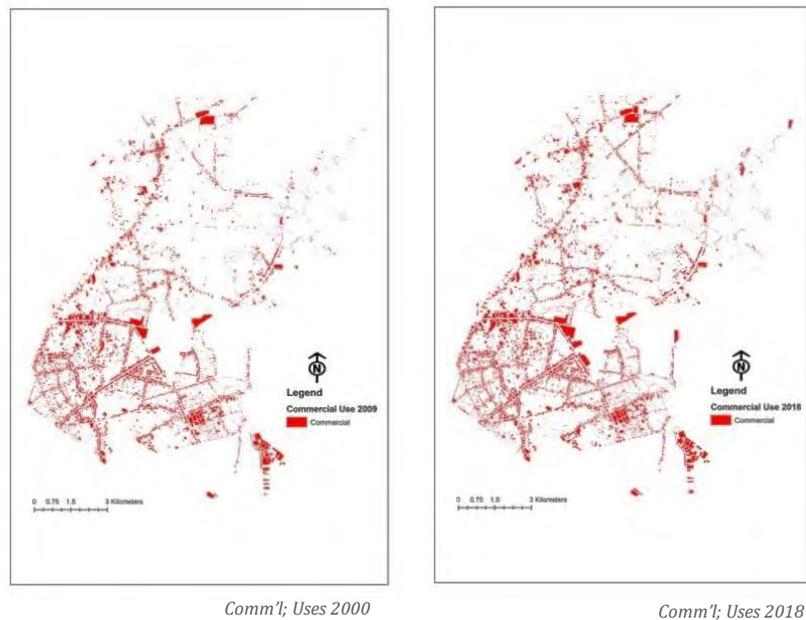


Figure GP-9: Growth of Commercial Areas, QC: 2009-2018

Table GP-4: Changes in Commercial Land Use 2009-2018 (in hectares)

District	TOTAL QC AREA	2009	% of QC	2018	% of QC	DIFF
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	16,112.58	997.78	6.19%	1,211.97	7.52%	214.19
	TOTAL DIST AREA		% of Dist		% of Dist	
1	1,959.39	261.02	13.32%	298.14	15.22%	37.11
2	2,182.37	38.66	1.77%	61.88	2.84%	23.22
3	2,184.82	175.09	8.01%	186.39	8.53%	11.30
4	2,341.89	232.49	9.93%	275.25	11.75%	42.76
5	5,246.71	142.31	2.71%	196.59	3.75%	54.28
6	2,197.40	148.21	6.74%	193.72	8.82%	45.51
<b>TOTAL</b>	<b>16,112.58</b>	<b>997.78</b>	<b>6.19%</b>	<b>1,211.97</b>	<b>7.52%</b>	<b>214.19</b>

While there has been a net increase of 214 hectares in land area used for commercial purposes within this study period (2009 to 2018), it may be noted that there also occurred conversion from commercial to other land uses. Largest was the change into residential use by about 24 hectares mostly in District 1 (10.6 hectares) and District 4 (7.9 hectares). Conversion to Utility function followed with 8 hectares of commercial area becoming either as gasoline stations, garage/terminal of transport services (cargo, public utility vehicles) or sewerage treatment or water recovery facility of water concessionaires: Maynilad and Manila Water. Meanwhile, some 40 hectares of once commercial use in 2009 were noted as vacant in 2018. 12 hectares in District 1, 8 hectares in District 3, and 7 hectares in District 5. Conversion from other uses to commercial, on the other hand, mainly involved former residential areas (67 hectares), industrial (16 hectares), institutional (15 hectares), informal settlements (7 hectares) and utility uses (6 hectares). 177 hectares of previously vacant land were developed for commercial function.

### 2.5.3 Industrial Development

Industrial areas showed a diminishing trend during the period by 37 hectares such that its share in total land use of the City went down from 2.27% in 2009 to 2.04% in 2018. Of the 365.8 hectares industrial sites in 2009, 307 hectares remained. Mostly, industrial areas were converted to commercial sites involving 16 hectares, or to residential uses especially high-rise condominiums and

townhouses (5.5 hectares) while a large portion (34.5 hectares) of industrial locations in 2009 were noted as vacant in 2018 with plans for mixed residential condominium and commercial mall

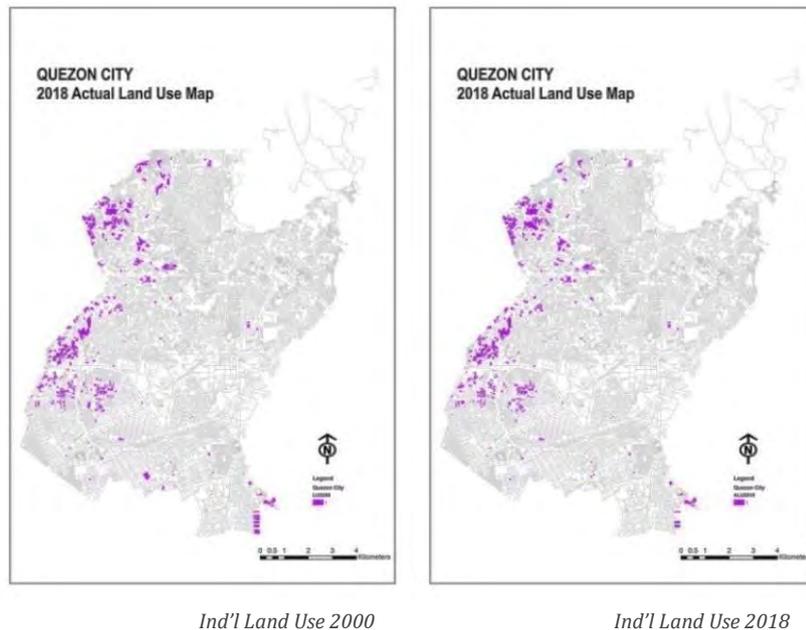


Figure GP-10 Growth of Industrial Areas, QC: 2000-2018

and offices type of development. District 1 lost 8.6 hectares of its previous industrial area to other uses plus 2 hectares being vacated, District 4 decreased by 6 hectares another 5.6 hectares converted in District 5 with 17 hectares now vacant and in District 6 industrial areas reduced by 3 hectares and 7 hectares now vacated.

*Table GP-5: Changes in Industrial Land Use 2009-2018 (in hectares)*

District	TOTAL QC AREA	2009	% of QC	2018	% of QC	DIFF
	16,112.58	365.78	2.27%	328.44	2.04%	-37.34
	TOTAL DIST AREA		% of Dist		% of Dist	
1	1,959.39	60.37	3.08%	53.89	2.75%	-6.48
2	2,182.37	0.05	0.00%	0.35	0.02%	0.31
3	2,184.82	28.99	1.33%	19.68	0.90%	-9.30
4	2,341.89	10.71	0.46%	4.82	0.21%	-5.89
5	5,246.71	150.05	2.86%	140.49	2.68%	-9.56
6	2,197.40	115.61	5.26%	109.21	4.97%	-6.41
<b>TOTAL</b>		<b>365.78</b>		<b>328.44</b>		<b>-37.34</b>

*Table GP-5a: Change from 2009 Industrial, 2018 to:*

DIST	2009 TOTAL INDUSTRIAL AREA OF DISTRICT	To Commercial		To Industrial		To Institutional		To Informal Settlement		To Residential	
1	60.37	5.89	9.76%	49.61	82.17%	0.24	0.40%	-	0.00%	2.30	3.81%
2	0.05	-	0.00%	0.05	100.00%	-	0.00%	-	0.00%	-	0.00%
3	28.99	0.85	2.93%	19.65	67.80%	-	0.00%	-	0.00%	-	0.00%
4	10.71	4.60	42.89%	4.44	41.48%	-	0.00%	-	0.00%	1.58	14.72%
5	150.05	3.71	2.47%	127.90	85.24%	0.43	0.29%	-	0.00%	0.54	0.36%
6	115.61	1.40	1.21%	105.17	90.97%	-	0.00%	0.19	0.16%	1.08	0.93%
<b>TOTAL</b>	<b>365.78</b>	<b>16.44</b>	<b>4.49%</b>	<b>306.82</b>	<b>83.88%</b>	<b>0.67</b>	<b>0.18%</b>	<b>0.19</b>	<b>0.05%</b>	<b>5.50</b>	<b>1.50%</b>

DIST	2009 DISTRICT	To Recreational		To Road		To Utility		To Vacant		To Cemetery	
1	60.37	0.00	0.00%	0.06	0.09%	0.12	0.21%	2.15	3.56%	0.00	0.00%
2	0.05	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%
3	28.99	0.00	0.00%	0.00	0.00%	0.00	0.00%	8.48	29.27%	0.00	0.00%
4	10.71	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.10	0.90%	0.00	0.00%
5	150.05	0.00	0.00%	0.59	0.39%	0.00	0.00%	16.62	11.07%	0.26	0.18%
6	115.61	0.21	0.18%	0.53	0.46%	0.00	0.00%	7.04	6.09%	0.00	0.00%
<b>TOTAL</b>	<b>365.78</b>	<b>0.21</b>	<b>0.06%</b>	<b>1.18</b>	<b>0.32%</b>	<b>0.12</b>	<b>0.03%</b>	<b>34.39</b>	<b>9.40%</b>	<b>0.26</b>	<b>0.07%</b>

While there was a net decrease in area, an additional 21.6 hectares industrial sites were generated, biggest from vacant lands in 2009 (16 hectares), some from residential uses (2.7 hectares) and from commercial areas (1.8 hectares). District 5 created 12.6 hectares to this addition in industrial area, District 1 has 4.28 hectares and District 6 added 4.03 hectares.

*Table GP-5b: Change from 2009 Other Uses to 2018 Industrial:*

DISTRICT:	1	2	3	4	5	6	TOTAL	
2018 TOTAL INDUSTRIAL AREA OF DISTRICT	53.89	0.35	19.68	4.82	140.49	109.21	328.44	%
FROM:								
Commercial	1.77	0.00	0.00	0.00	0.00	0.04	1.81	0.55%
Industrial	49.61	0.05	19.65	4.44	127.90	105.17	306.82	93.42%
Informal Settlement	0.00	0.00	0.00	0.00	0.10	0.00	0.10	0.03%
Residential	0.49	0.00	0.00	0.38	0.72	1.18	2.76	0.84%
Utility	0.00	0.31	0.00	0.00	0.00	0.05	0.36	0.11%
Vacant	2.02	0.00	0.03	0.00	11.78	2.71	16.55	5.04%
Waterway	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.01%
<b>TOTAL</b>	<b>53.89</b>	<b>0.35</b>	<b>19.68</b>	<b>4.82</b>	<b>140.49</b>	<b>109.21</b>	<b>328.44</b>	<b>100.00%</b>

## 2.5.4 Institutional Development

An increase of 24 hectares in institutional uses happened during the decade. From 1,202 hectares to 1,226 hectares in 2018, institutional uses had a slight increase in percent share to total City area from 7.46% to 7.61%. With 17 hectares new institutional area, District 6 had the biggest share in this growth followed by District 2 with 10.6 hectares added, District 1 with 6

hectares and 2 hectares in District 3. The development of the Iglesia Ni Cristo property as an expansion of the New Era University and hospital had the biggest share in this increase. In District 2, the new additions to institutional areas include the Iglesia Ni Cristo church at Batasan Hills, the expansion of Quezon City University in Batasan, new schools in Payatas. New and expansion of hospitals, schools, colleges, places of worship, government and barangay facilities and offices are among the types of establishments making up this increase in institutional uses.

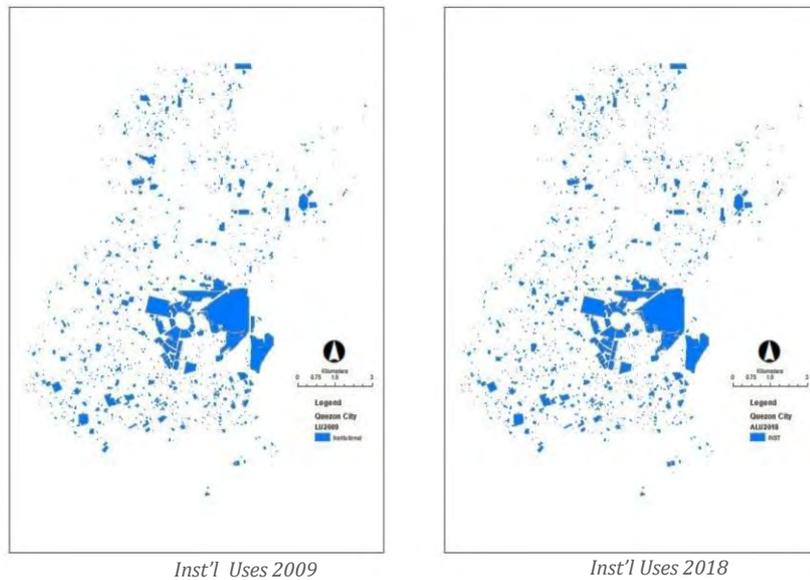


Figure GP-11 Growth of Institutional Areas, QC: 2009-2018

**Table GP-6: Changes in Institutional Land Use : QC, 2009-2018 (in hectares)**

District	TOTAL QC AREA	2009	% of QC	2018	% of QC	DIFF
	16,112.58	1,202.04	7.46%	1,226.28	7.61%	24.24
	TOTAL DIST AREA	2009	% of Dist	2018	% of Dist	DIFF
1	1,959.39	188.37	9.61%	194.46	9.92%	6.09
2	2,182.37	64.76	2.97%	75.37	3.45%	10.61
3	2,184.82	149.28	6.83%	151.78	6.95%	2.50
4	2,341.89	597.64	25.52%	587.26	25.08%	-10.38
5	5,246.71	117.29	2.24%	115.19	2.20%	-2.10
6	2,197.40	84.69	3.85%	102.21	4.65%	17.52
<b>TOTAL</b>		<b>1,202.04</b>		<b>1,226.28</b>		<b>24.24</b>

**Table GP-6a: Change from 2009 Other Uses to 2018 Institutional**

DIST	FROM C		FROM I		FROM INST		FROM IS		FROM OS		FROM R	
1	1.69	0.87%	0.24	0.12%	188.21	96.78%	0.05	0.03%	0.03	0.02%	1.66	0.85%
2	0.74	0.99%	0.00	0.00%	64.75	85.92%	2.15	2.86%	0.61	0.81%	1.19	1.58%
3	0.26	0.17%	0.00	0.00%	146.80	96.72%	0.08	0.05%	0.18	0.12%	0.68	0.45%
4	0.48	0.08%	0.00	0.00%	580.20	98.80%	3.47	0.59%	0.06	0.01%	2.32	0.39%
5	0.74	0.64%	0.43	0.38%	106.35	92.33%	0.18	0.16%	0.36	0.31%	0.99	0.86%
6	0.42	0.41%	0.00	0.00%	84.21	82.38%	0.30	0.29%	0.36	0.35%	2.31	2.26%
<b>TOTAL</b>	<b>4.33</b>	<b>3.16%</b>	<b>0.67</b>	<b>0.50%</b>	<b>1,170.53</b>	<b>552.93%</b>	<b>6.24</b>	<b>3.98%</b>	<b>1.60</b>	<b>1.62%</b>	<b>9.14</b>	<b>6.39%</b>

DIST	FROM REC		FROM ROAD		FROM SH		FROM U		FROM V		FROM WW	
1	0.13	0.07%	0.01	0.01%	0.02	0.01%	0.00	0.00%	2.43	1.25%	0.00	0.00%
2	0.30	0.40%	0.05	0.07%	2.60	3.45%	0.00	0.00%	2.97	3.94%	0.00	0.00%
3	0.06	0.04%	0.01	0.01%	0.00	0.00%	0.00	0.00%	3.70	2.44%	0.00	0.00%
4	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.00	0.00%	0.68	0.12%	0.04	0.01%
5	0.24	0.20%	0.06	0.05%	0.00	0.00%	0.00	0.00%	5.84	5.07%	0.00	0.00%
6	0.00	0.00%	0.32	0.31%	0.00	0.00%	0.00	0.00%	14.30	13.99%	0.00	0.00%
<b>TOTAL</b>	<b>0.72</b>	<b>0.70%</b>	<b>0.46</b>	<b>0.45%</b>	<b>2.61</b>	<b>3.45%</b>	<b>0.00</b>	<b>0.00%</b>	<b>29.92</b>	<b>26.80%</b>	<b>0.04</b>	<b>0.01%</b>

The biggest area in 2009 used for institutional function by 2018 was from vacant land at 30 hectares; from residential was 9 hectares and another 9 hectares from informal settlement and socialized housing sites combined. Also, 4 hectares of former commercial area are now used as institutional sites.

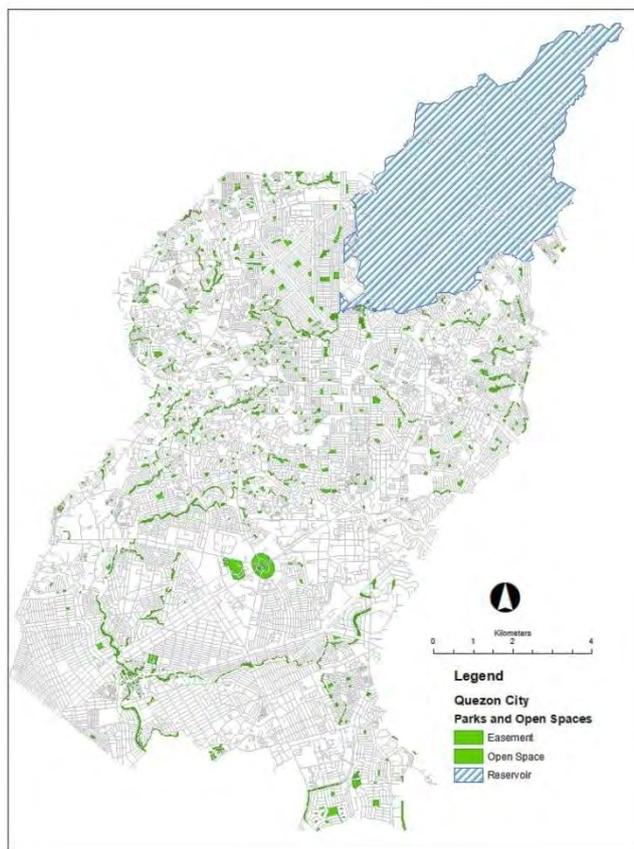
**Table GP-7: Change from 2009 Institutional, 2018 to:**

DISTRICT	2009 TOTAL Institutional Area of District	TO C	TO INST	TO IS	TO R	TO REC	TO ROAD	TO U	TO V	TO WW	TOTAL 2018 Institutional Area of District
1.00	188.37	0.00	188.21	0.00	0.00	0.00	0.00	0.00	0.16	0.00	188.37
2.00	64.76	0.00	64.75	0.00	0.00	0.00	0.00	0.00	0.01	0.00	64.76
3.00	149.28	0.11	146.80	0.00	0.00	0.00	0.10	0.15	2.11	0.00	149.28
4.00	597.64	7.69	580.20	5.14	0.00	0.05	0.00	0.45	4.10	0.00	597.64
5.00	117.29	7.18	106.35	0.02	0.00	0.05	0.00	0.00	3.56	0.14	117.29
6.00	84.69	0.00	84.21	0.00	0.14	0.00	0.34	0.00	0.00	0.00	84.69
<b>TOTAL</b>	<b>1,202.04</b>	<b>14.98</b>	<b>1,170.53</b>	<b>5.16</b>	<b>0.14</b>	<b>0.10</b>	<b>0.44</b>	<b>0.61</b>	<b>9.95</b>	<b>0.14</b>	<b>1,202.04</b>

During the period, conversion of 22 hectares institutional areas to other uses and 10 hectares being vacated also occurred. The change in use of institutional areas to commercial was largest at 15 hectares in Districts 4 and 5 while some 5 hectares District 4 was occupied by informal settlers. Smaller conversions to other uses like utility, residential, road, recreation ranges at 0.6 to 0.1 hectare.

### 2.5.5 Parks and Open Spaces

At present, the city has a total of 588 developed, partially developed and undeveloped parks. These are primarily open spaces in subdivisions intended as recreational areas that have been turned over to the city government by subdivision developers or homeowners' associations. As to major parks, the city prides itself on the (25-hectare) Quezon Memorial Circle and the (19.29-hectare) Ninoy Aquino Parks and Wildlife Nature Center, which covers a total combined area of roughly 45 (42.29) hectares. There are so-called "special" parks as well, which include the 2,700-hectare La Mesa Watershed (2,569.41 has.), the 16-hectare UP Arboretum (3.57 has.), in addition to recreational greens like the Capitol Golf and Country Club and the Camp Aguinaldo Golf Course, along with the QC Sports Complex and the multifaceted grounds of the Veteran Memorial Hospital. Despite the fact that these may be added to the physical inventory, the same cannot be fully considered as city parks because of their limited accessibility to the general public.



**Figure GP-12 QC Parks and Open Spaces**

Table GP-3: Status of Parks / Open Spaces: QC, 2018

STATUS	DIST I	DIST II	DIST III	DIST IV	DIST V	DIST VI	Total
<b>Developed</b>	36	22	39	26	72	58	253
<b>Partially Developed</b>	3	3	7	1	23	26	63
<b>Undeveloped</b>	42	49	31	36	60	54	272
<b>GRAND TOTAL</b>	<b>81</b>	<b>74</b>	<b>77</b>	<b>63</b>	<b>155</b>	<b>138</b>	<b>588</b>

Source: PDAD

## 2.6 SERVICE UTILITIES

### 2.6.1 Water Supply

Just like the rest of Metro Manila, Quezon City gets its water supply from the Metropolitan Waterworks and Sewerage System (MWSS) through its private distribution concessionaires: the Maynilad Water Services, Inc. (MWSI), which caters the city’s western section and the Manila Water Company, Inc. (MWCI) which serves the eastern part.

In terms of service connections, records from MWSI and MWCI show a combined total of 498,727 households being served as of 2018. MWSI maintains just about 320,733 water service connections or 64.31% while MWCI adds up to 177,994 water service connections or 35.69%. Aggregate domestic users account for 448,763 water service connections or 89.98%, semi-business consumers comprise 20,936 or 4.20%, commercial users involve 25,698 or 5.15% and industrial users at 3,330 or 0.67%.



Figure GP-13: Water Supply Map

Table GP-4 : Water Service Connection, QC: 2018

CONSUMER TYPE	MAYNILAD WATER SERVICES, INC.	MANILA WATER COMPANY, INC.	TOTAL	PERCENTAGE
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Domestic	292,261	156,502	448,763	89.98%
Semi-Business	14,008	6,928	20,936	4.20%
Commercial	12,071	13,627	25,698	5.15%
Industrial	2,393	937	3,330	0.67%
<b>Total</b>	<b>320,733</b>	<b>177,994</b>	<b>498,727</b>	<b>100</b>
<b>Percent</b>	64.31%	35.69%	<b>100</b>	

Amount of water provided and sold by MWSI per month covers a total of 105,280,000 cubic meters or 50.19% while that of MWCI involves roughly 104,470,603 cubic meters or 49.81%, for a combined total of 209,750,603 cubic meters. Domestic consumers registered the biggest water volume while industrial users spent the least quantity. Residential users have a billed volume of 142,524,407 cubic meters or 67.95%, followed by commercial users at 20.56%, semi business at 8.15% and industrial users at 3.34%.

**Table GP-5 : Billed Volume (Amount of Water Sold per Month, in cu. meters), 2018**

CONSUMER TYPE	MAYNILAD WATER SERVICES, INC.	MANILA WATER COMPANY, INC.	TOTAL	PERCENTAGE
Domestic	83,160,000	59,364,407	142,524,407	67.95%
Commercial	10,990,000	32,131,765	43,121,765	20.56%
Semi-Business	7,640,000	9,458,066	17,098,066	8.15%
Industrial	3,490,000	3,516,365	7,006,365	3.34%
<b>Total</b>	<b>105,280,000</b>	<b>104,470,603</b>	<b>209,750,603</b>	<b>100</b>

The city used up an average of 1,808 cubic meters for every service connection per month. Commercial users were the biggest consumers at 5,219 cubic meters, followed by industrial users with 4,288 cubic meters, semi business users at 3,715 cubic meters and domestic users 1,404 cubic meters.

**Table GP-6 : Monthly Average Consumption per Service Connection\*, 2018**

CONSUMER TYPE	MAYNILAD WATER SERVICES, INC.	MANILA WATER COMPANY, INC.	TOTAL
Commercial	910	2,358	5,219
Industrial	1,458	3,753	4,288
Semi-Business	545	1,365	3,715
Domestic	285	379	1,404
<b>Total</b>			<b>1,808</b>

\*computed as Billed Volume /Water Service Connection

Source: MWSS, Maynilad Water Services, Inc., Manila Water Company, Inc.

## 2.6.2 Communication

Quezon City has eleven (11) telephone companies and mobile service providers, including the Philippine Long Distance Telecommunications (PLDT), Globe \_\_\_ and Smart Communications, as well as sixty-one (61) internet service providers with company address registered at the city

and with authorization from the National Telecommunication Commission (NTC) to provide telecom/mobile/internet services nationwide.

**Table GP-9: Internet Service Providers, QC: 2017**

1.	AIS SuperWIFI	21	Enhanced Electronics and Communications Services, Inc.	41	PT&T
2	Alarmnet, Inc.	22	Fil Products Service TV, Inc.	42	Quantis
3	AZ Communications Network, Inc.	23	Globe Broadband	43	Radiuos Telecoms, Inc.
4	Bayan Telecommunications	24	InfiniVAN	44	RISE Philippines
5	GellTel	25	iPSTAR	45	Royal Cable
6	Big Sky Nation	26	iXSforall	46	Seven Kong Tek Cor[poration
7	Businesscom Networks	27	Jason Electronics Philippines Co. Inc	47	Sky Broadband
8	Cablelink	28	Juch-Tech, Inc.	48	SMART Communications
9	Caceres Cable TV	29	LaSalTech	49	Source Telecoms
10	ComClark Network	30	Mozcom	50	spaceXBroadband Satellite
11	Converge ICT	31	NyBusyBee, Inc.	51	Sun Cellular
12	dellNet	32	MyCloudCorporation	52	Tele Teck Philippines
13	Destiny Cable	33	NERA	53	Telikonserv Corporation
14	DHX Keeper Cable Corporation	34	NexLogic	54	Textron
15	DOMSAT	35	NOW Network	55	Three Lights Management & Consultancy Corporation
16	Doublesquare Networks, Inc.	36	OneWeb Broadband Satellite	56	TIC Network Solutions Corporation
17	Eastern Communications	37	Philippine Long Distance Company	57	TOPH, Inc
18	EasyNet	38	Phillipine Netwlrk Foundation, Inc.	58	TS2 Space
19	ECM Networks	39	Pilipino Cable Corporation	59	We Are IT Philippines, Inc
20	Edgecomm	40	Planet Cable	60	Wi-Tribe
				61	WorkNetPhil Internation, Inc.

Source: NTC

## 2.7 TRANSPORTATION

### 2.7.1 Road Network

At present, the city has a cumulative road kilometerage of 2,324.40 kilometers, following a 26.81 kilometers increase from 2016 to 2018. The current road-to-land area ratio, on the other hand, is pegged as 17.01 kilometers per 100 hectares, after a 0.20 % increase from the 2016 ratio of 16.81 kilometers per 100 hectares.

**Table GP-10: Road Kilometerage and Road-to-Land Area Ratio Per District, Quezon City: 2016 and 2018**

District	Area (Has)	2016	2018	Increase/Decrease (2016 to 2018)
----------	------------	------	------	----------------------------------

		Km	Ratio (per 10 has.)	Km	Ratio (per 10 has.)	Km	Ratio
1	1,959.39	323.78	16.52	325.27	16.60	1.49	0.08
2	2,182.37	373.61	17.12	375.62	17.21	2.01	0.09
3	2,184.82	339.31	15.53	341.17	15.62	1.86	0.09
4	2,341.89	350.71	14.98	353.85	15.11	3.14	0.13
5	2,802.57	552.10	19.70	559.79	19.97	7.69	0.27
6	2,197.39	358.08	16.30	368.69	16.78	10.61	0.48
<b>Total</b>	<b>13,668.43</b>	<b>2,297.59</b>	<b>16.81</b>	<b>2,324.40</b>	<b>17.01</b>	<b>26.81</b>	<b>0.20</b>

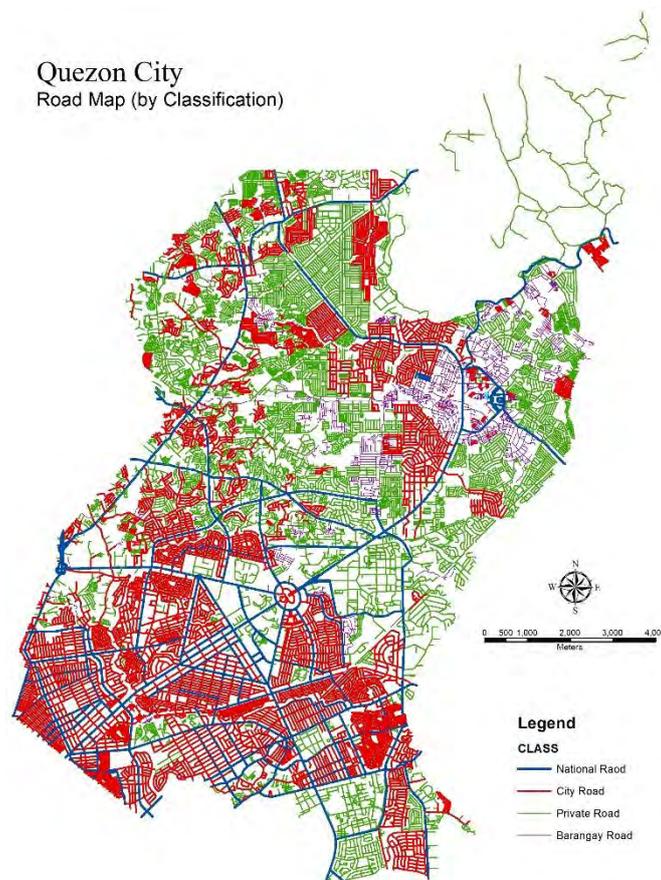
Source: Quezon City Planning and Development Office (CPDO)

Of the total additional roads constructed from 2016 to 2018, approximately 2.16 kilometers or 8.07% were categorized as primary arterial roads, while around 24.64 kilometers or 91.85% were either secondary, collector, tertiary or service roads. Tertiary or distributor roads are basically used as access to properties.

**Table GP-11: Road Kilometerage per Category, Quezon City: 2016 and 2018**

Category	2016		2018		Increase/Decrease (2016 to 2018)	
	Km	Percentage	Km	Percentage	Km	Percentage
Primary	160.11	6.97	162.27	6.98	2.16	8.07
Secondary	160.74	7.00	161.05	6.93	0.31	1.15
Alternate	68.20	2.97	68.63	2.95	0.43	1.61
Collector	426.74	18.57	428.82	18.45	2.08	7.76
Tertiary	1,285.47	55.95	1,301.20	55.98	15.73	58.68
Service	196.33	8.55	202.42	8.71	6.09	22.73
<b>Total</b>	<b>2,297.59</b>	<b>100.00</b>	<b>2,324.40</b>	<b>100.00</b>	<b>27.50</b>	<b>100.00</b>

Source: Quezon City Planning and Development Office, Geographic Information System (CPDO, GIS)



**Figure GP-14: Quezon City Road Map by Classification**

Of the total kilometerage of 2,324.40 kilometers, 214.37 kilometers or 9.22% are classified as national roads, 945.43 kilometers or 40.67% are city roads, 977.29 kilometers or 42.05% are privately-owned roads and 187.30 kilometers or 8.06% are barangay roads. The Department of Public Works and Highways (DPWH) oversees and maintains the national roads while the City Engineer’s Office takes care of city roads. Maintenance and improvement of private roads are the responsibility of their respective owners, developers or homeowners’ associations.

**Table GP-12: Road Kilometerage per Category and Classification, Quezon City: 2018**

	National	City	Private	Barangay	Total
Primary	153.73	2.85	5.69	-	162.27
Secondary	42.33	92.53	16.07	10.1	161.05
Alternate	4.90	58.25	4.41	1.08	68.63
Collector	6.96	205.35	173.06	43.45	428.82
Tertiary	3.86	578.06	589.27	130.01	1,301.20
Service	2.59	8.40	188.79	2.65	202.42
<b>Total</b>	<b>214.37</b>	<b>945.43</b>	<b>977.29</b>	<b>187.30</b>	<b>2,324.40</b>
<b>Percentage</b>	<b>9.22</b>	<b>40.67</b>	<b>42.05</b>	<b>8.06</b>	<b>100.00</b>

Source: Quezon City Planning and Development Office, Geographic Information System (CPDO, GIS)

## 2.7.2 Traffic Volume

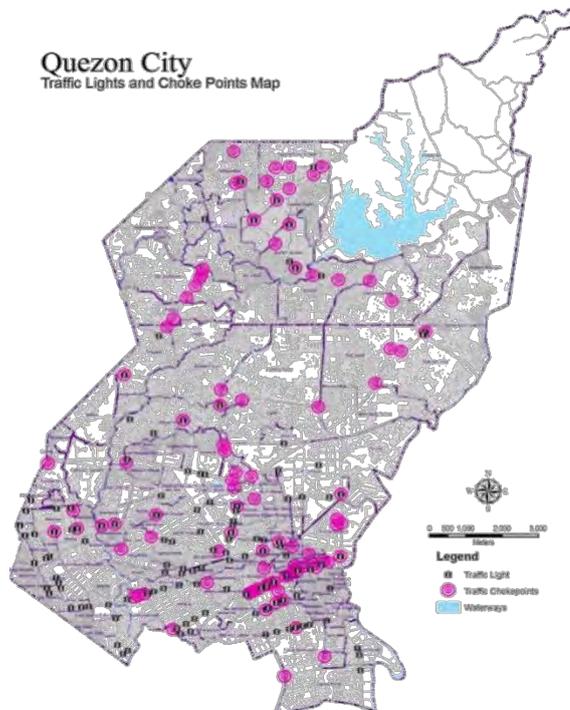
Based on the traffic count of Metro Manila Development Authority - Traffic Operations Center (MMDA-TOC) in 2018, the Epifanio Delos Santos Avenue (EDSA) is the most traveled thoroughfare in the city with an average volume of 195,486 vehicles per day (vpd). Elliptical Road came in second with an average of 166,883 vpd, while Commonwealth Avenue ended up third with 164,381 vpd. Registering fourth as highly traveled section in the city was Quezon Avenue with 161,880 vpd, followed by C-5/Katipunan Avenue at fifth with 148,481 vpd.

**Table GP-13: QC Annual Average Daily Traffic: Quezon City, 2018**

ROAD	CAR	PUJ	UV	TAXI	BUS	TRUCK	TRAILER	MC	TRICYCLE	TOTAL
EDSA	123,579	2,627	3,517	15,096	9,804	2,093	5	38,639	126	195,486
Elliptical Rd.	99,664	9,382	4,887	12,233	2,439	3,101	449	34,623	80	166,858
Commonwealth Ave.	97,699	8,135	6,954	11,469	1,855	3,019	357	34,725	155	164,368
Quezon Ave.	95,734	6,889	9,021	10,706	1,270	2,937	266	34,827	230	161,880
Katipunan Ave., C-5	86,733	3,048	2,176	5,019	369	9,038	673	40,765	662	148,483
A. Bonifacio Ave.	31,916	2,968	161	891	1,408	8,630	2,695	14,028	805	63,502
C-3, Araneta Ave.	30,201	1,336	21	2,971	275	3,226	311	22,045	2,193	62,579
Aurora Blvd.	22,865	7,792	756	3,755	287	647	83	13,214	239	49,638
Average	73,549	5,272	3,437	7,768	2,213	4,086	605	29,108	561	126,599
<b>Percent</b>	<b>58.10</b>	<b>4.16</b>	<b>2.71</b>	<b>6.14</b>	<b>1.75</b>	<b>3.23</b>	<b>0.48</b>	<b>22.99</b>	<b>0.44</b>	<b>100.00</b>

Source: MMDA-TOC

## 2.7.3 Traffic Prone Areas



**Figure GP-15: Traffic Lights and Choke Points Map**

Shortage and/or absence of primary and secondary roads in several portions of the city is evident in the prevalent heavy traffic along the few existing thoroughfares, combined with the frequent occurrence of congestion at major intersections.

**Table GP-14: Traffic Prone Areas, Quezon City: 2018**

Road / Street	Intersection
Aurora Boulevard	At corner P. Tuazon, Boni Serrano, 15 <sup>th</sup> Avenues, 20 <sup>th</sup> Avenue, Anonas, Ermin Garcia, Harvard, Stanford, St. Mary, Imperial, Potsdam, Illinois, Albany, Gen. Araneta, Broadway
Commonwealth Avenue	At Mindanao Avenue Extension, Regalado Avenue, Belfast Road, SM Fairview, Don Antonio, IBP Road, Dona Carmen Subdivision, Camaro, Fairlane, Atherthon, Tandang Sora Avenue, Elliptical Road
Epifanio delos Santos Avenue	At corner West Avenue, North Avenue, Quezon Avenue, Timog Avenue, East Avenue, Kamuning Road, Kamias Road, Aurora Boulevard, Boni Serrano Avenue, Ortigas Avenue
Quirino Highway	At corner Mindanao Avenue, Kingspoint, Sauyo Road, Seminary Road, P. De la Cruz, QCPU, Tandang Sora Avenue, Green Heights, SM Novaliches, Zabarte Avenue, Commonwealth Avenue, Mindanao Avenue Extension, Robinson's, SM Fairview, Regalado Avenue, Our Lady of Fatima University
E. Rodriguez Avenue	At corner St. Lukes Hospital, Broadway, Sta. Cecilia, Judge Jimenez
Congressional Avenue	At corner Mindanao Avenue, Luzon Avenue
Katipunan Avenue	At corner Aurora Boulevard, De la Rosa, Pines Ville, Sarangaya Road
Visayas Avenue	At corner Central Avenue, Congressional Avenue, Tandang Sora Avenue, Road 1 towards Elliptical Road
Del Monte Avenue	At corner West Avenue, Roosevelt Avenue, Araneta Avenue, West Riverside, Banawe Road
Tandang Sora Avenue	At corner Mindanao Avenue, Philand Drive
East Avenue	At corner Matalino Street, V. Luna Road, EDSA
Roosevelt Avenue	At corner Quezon Avenue, Gen. Lim, Dangay Street
Sto. Domingo Avenue	At corner Sgt. Rivera
15 <sup>th</sup> Avenue	At corner P. Tuazon, Boni Serrano Avenue, Aurora Boulevard, Mirasol Road
20 <sup>th</sup> Avenue	At corner Aurora Boulevard, P. Tuazon Avenue
Timog Avenue	At corner EDSA, Panay Avenue, Quezon Avenue
Zabarte Avenue	At corner Quirino Highway, North Olympus
IBP Road	At corner San Mateo, Batasan Road, Filinvest, Commonwealth Avenue
Regalado Avenue	At corner Mindanao Avenue Extension, Bristol Street, Quirino Highway
Mindanao Avenue	At corner Quirino Highway, Tandang Sora Avenue, Mindanao Avenue, North Avenue
Anonas Road	At corner Molave, Tindalo, V. Luna Road
Elliptical Road	At corner Visayas Avenue, Commonwealth Avenue, North Avenue, Quezon Avenue
Kalayaan Avenue	At corner Kamias Road, Mayaman Street, Elliptical Road

Source: Department of Public Order and Safety, TOD (2018)

### 2.7.4 Mode of Transport

Available modes of transportation in Quezon City are entirely land-based. According to the 2018 data of the MMDA-Traffic Engineering Center (TEC), private transport dominates the city with 81.09% of the total volume, while public utility vehicles, i.e., buses, jeepneys, taxis, UV express and tricycles comprise 15.21%, with industrial or commercial vehicles, i.e., trucks, trailers at 3.71%. Total volume of PUVs is distributed among PUJ (27.39%), UV express (17.85%), taxi (40.35%), bus (11.50%) and tricycles (2.92%).

Table GP-15: QC Annual Average Daily Traffic 2018

ROAD	PUJ	UV	TAXI	BUS	TRICYCLE	CAR	MC	TRUCK	TRAILER	
EDSA	2,627	3,517	15,096	9,804	126	123,579	38,639	2,093	5	
Katipunan Ave., C-5	3,048	2,176	5,019	369	662	86,733	40,765	9,038	673	
Aurora Blvd.	7,792	756	3,755	287	239	22,865	13,214	647	83	
A. Bonifacio Ave.	2,968	161	891	1,408	805	31,916	14,028	8,630	2,695	
C-3, Araneta Ave.	1,336	21	2,971	275	2,193	30,201	22,045	3,226	311	
Quezon Ave.	6,889	9,021	10,706	1,270	230	95,734	34,827	2,937	266	
Elliptical Rd.	9,382	4,887	12,233	2,439	80	99,664	34,623	3,101	449	
Commonwealth Ave.	8,135	6,954	11,469	1,855	155	97,699	34,725	3,019	357	
Average	5,272	3,437	7,768	2,213	561	73,549	29,108	4,086	605	
	19,251				102,657			4,691		
	126,599									
Percentage	27.39	17.85	40.35	11.50	2.92	71.65	28.35	87.11	12.89	
	15.21				81.09			3.71		

Source: MMDA-TEC (2018)

Public buses ply the city's six (6) major thoroughfares, namely: EDSA, Commonwealth Avenue, Quirino Highway, General Luis Avenue, Quezon Avenue, and Aurora Boulevard while PUJs service nearly all of the other main roads as well as some bus routes. Tricycles, on the other hand, are confined to the inner areas and communities. Data from the Land Transportation Franchising and Regulatory Board (LTFRB) indicate that, as of 2018, there are 41,639 units of PUJ, 10,200 units of taxi and 8,606 units of UV Express. Meanwhile, the 2018 records from the city government's Tricycle Regulatory Unit (TRU) listed 24,713 registered tricycle units plying the more or less 150 Tricycle Operators and Drivers Association (TODA) areas in the city.

Table GP-16: Registered Public Utility Vehicles, Quezon City: 2018

PUJ			TAXI			UV EXPRESS		
a. Air-conditioned			a. Air-conditioned Sedan			a. UV Express		
b. Regular			b. Regular Sedan			b. Vehicles for Hire		
c. Dual			c. Coupon Airport Taxi			c. UV Shuttle		
d. Jumbo						d. PU		
Operator	Franchise	Units	Operator	Franchise	Units	Operator	Franchise	Units
			7,595	7,595	10,200	8,362	8,362	8,606
33,618	33,618	41,639						
<b>33,618</b>	<b>33,618</b>	<b>41,639</b>	<b>7,595</b>	<b>7,595</b>	<b>10,200</b>	<b>8,362</b>	<b>8,362</b>	<b>8,606</b>

Source: LTFRB-QC

In terms of passenger volume, approximately 264,309 passengers (45%) are making the most of private conveyances, even as public transport modes were estimated to carry as much as 317,424 commuters (55%).

Table GP-17: Average Daily Passenger Volume, QC: 2018

Mode of Transport*	Average Daily Traffic	Average Vehicle Passenger Capacity	Estimated Passenger Volume	Percentage
Car	73,549	3.0	220,647	37.93
Motor cycle	29,108	1.5	43,662	7.51
<b>Total (Private)</b>			<b>264,309</b>	<b>45.43</b>
UV	3,437	14.0	48,118	8.27
Taxi	7,768	2.5	19,420	3.34
Bus	2,213	60.0	132,780	22.82
PUJ	5,272	22.0	115,984	19.94
Tricycle	561	2.0	1,122	0.19
<b>Total (Public)</b>			<b>317,424</b>	<b>54.57</b>
<b>TOTAL</b>	<b>121,908</b>		<b>581,733</b>	<b>100.00</b>

\*Trucks and trailers are not included

Source: LTFRB

The Metro Rail Transit (MRT) Line 3 along EDSA, on the other hand, carries as many as 290,000 rail users per day, while the Light Rail Transit (LRT) Line 2 in Aurora Boulevard transports a total of 177,300 or 59,900 rail users per day for stations in QC, in addition to approximately 440,000 passengers using LRT Line 1 as a means of transport on a daily basis.

Table GP-18: QC Transport Programs and Projects

PROGRAM/PROJECT	DESCRIPTION	LEAD AGENCY	TARGET COMPLETION YEAR	STATUS
Metro Manila Skyway Stage 3 (Sections 3 and 4)	Elevated viaduct from existing Skyway at SLEX, Buendia in Makati extended towards Balintawak Cloverleaf in QC (14.82 kms.)	Department of Transportation (DOTr)-TRB, Citra Corporation	2020	Section 3: Ramon Magsaysay Ave. to Quezon Ave., 96.86%; Section 4: Quezon Ave. to Balintawak, 75.67% & Section 5, Balintawak to NLEX Footbridge, 83.56%
MRT 7 Project	23 kms. line from SM North to Ciudad Real Subd. in San Jose del Monte, Bulacan. Will traverse center line of North Avenue, QMC Circle, Commonwealth Avenue, Regalado Avenue and Quirino Highway	DOTr, San Miguel Corporation	2022	51.84% complete as of March 31, 2020. Civil Works is 47.07% complete; and Rolling Stock and Electrical & Mechanical Work is 55.30% complete
Southeast Metro Manila Expressway (C6) Project - Segment 2 Section 6 (Tumana Bridge - Batasan Complex)	Toll road project with approximately 34.024 kms that is intended to run from Skyway/ FTI in Taguig City to Batasan Complex.	Department of Public Works and Highways (DPWH), Citra Corporation	For Segment 2 Section 6 - Not yet stated	DPWH requested TRB to provide surveyors to start conducting staking out/markings to establish ROW limits, and on-going coordination with concerned LGUs (Section 4,5,6). Sections 1,3,4,5,6 with approved Parcellary Plans and DED

Mega Manila Subway Project	A 28.3-kilometer underground rapid transit line which will run north-south between the cities of Quezon City, Pasig, Makati, Taguig and Parañaque	DOTr, Japan International Cooperation Agency (JICA)	2025	NEDA Board approved, as of May 30, 2019, preparation of bid documents for other contract package is on-going. Likewise, ROW acquisition for the whole project is on-going
NLEX Segment 8.2 Project	2.7 kms stretch from Smart Connect Interchange to Mindanao Avenue up to Commonwealth Avenue	DPWH, Manila North Tollways Corp. (MNTC)		Detailed Engineering Design (DED) approved by TRB. Ongoing Right-of-Way Acquisition by the DPWH. Ongoing ISF relocation by NHA. Funding for ISF relocation downloaded from DPWH to NHA
Visayas Avenue Extension Project	Tandang Sora Ave. to Republic Ave. (C-6), 2.46 kms, 26 meters wide ROW, 3 lanes each	DPWH		On-going construction
MRT 8 Project	9 kms –railway system connecting Sampaloc, Manila, and Diliman, Quezon City via, Commonwealth Avenue, Quezon Avenue, and España Boulevard.	DOTr		for approval of the National Economic Development Authority (NEDA)
Bus Rapid Transport (BRT) Line 1 Project	12.3 kms from QMC to Manila City Hall via Elliptical Road, Quezon Avenue, and España Blvd.	DOTr	2022	NEDA Board approved
Bus Rapid Transport (BRT) Line 2 Project	Line 2 along EDSA	DOTr	To Be Determined	NEDA Board approved
Marikina-Vista Real Bridge	414.9 m, 4-lane bridge to connect Marikina side (Kabayani Rd.) and Vista Real, QC (Stockholm & Delhi Sts.)	DPWH	2023	NEDA Board approved
Bus Rapid Transport (BRT) Line 3 Project	Line 3 (C5 Taguig to Quirino Highway Talipapa)	DOTr		Proposed
Ateneo-Miriam-C. P. Garcia Viaduct Project	4-lane flyover along Katipunan Avenue fronting Ateneo University and Miriam College	DPWH		Proposed



Demographic Profile  
and Social Development

3



# CHAPTER 3: Demographic Profile and Social Development

The Demographic and Social Development Profile discusses sub-sectors on Population, the Status of Well-Being which includes Health, Education, Social Welfare Services, Housing, Sports, and Recreation and Protective Services.

## 3.1 POPULATION

### 3.1.1 Population Size and Growth Rate

#### Population Size

The 2015 official census of the Philippine Statistics Authority (PSA) shows that Quezon City has a population of 2,936,116, an increase of 174,396 persons or 6.31% more over the 2010 population of 2,761,720. The city's population is the largest, comprising almost one-fourth (23%) of NCR's population of 12.88M and 2.91% of the 100.98M Philippine population (See Figure DS-1). Of the 33 highly urbanized cities (HUCs) in the country, the city also ranks first with the largest population.

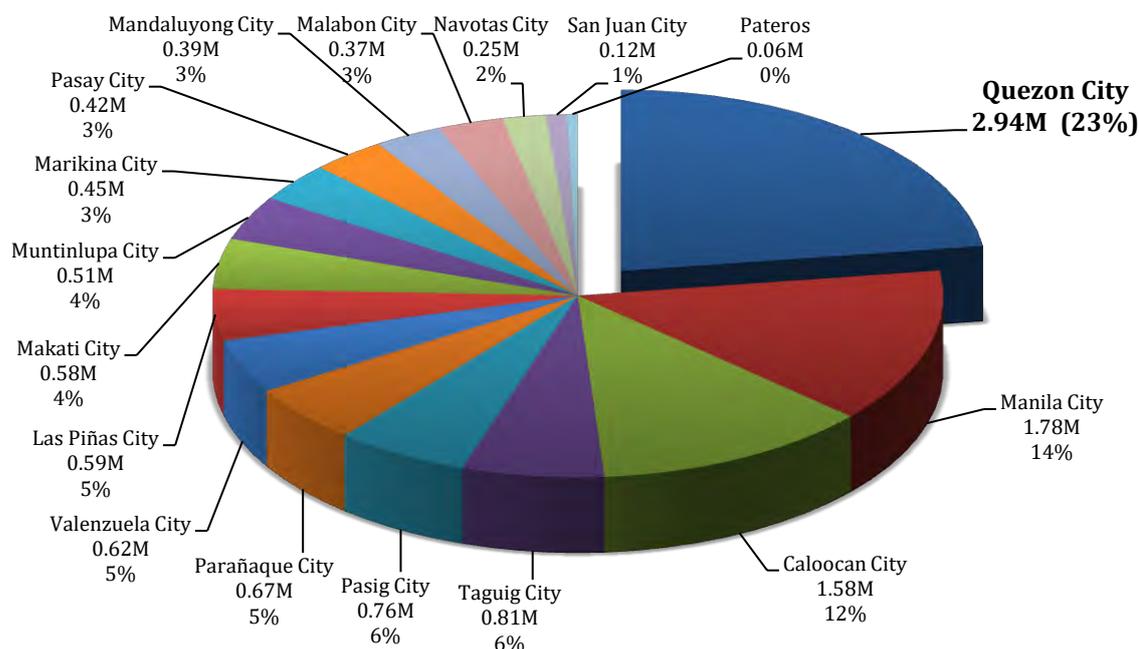


Figure DS-1: Distribution of Population, Metro Manila: 2015

Records from various census years indicated that the population of the city has increased tremendously over the past years. The city's population in 1939 was 39,013 persons. It surpassed the one million mark in 1980 with a population of 1,165,865; hit the two million population with 2,173,931 in 2000; and, reached almost three million in the latest PSA census of 2,936,116 in 2015. (See Table DS-1)

## Growth Rate

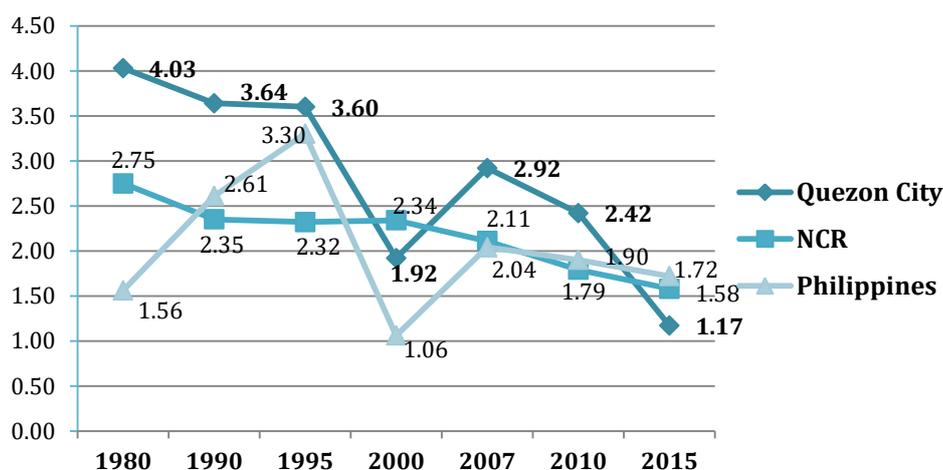
The city's annual population growth rate was highest between 1939-1948 at 12.20%, decreasing to 11.32% in 1948-1960 and decreasing further to 6.60% between 1960-1970. From thereon, the annual population growth rate gradually decreased to 4.87% in the period of 1970-1975; 4.03% between 1975-1980; 3.64% in the years 1980-1990; and 3.60% by 1990-1995. The city recorded a significant decrease at 1.92% between 1995-2000; but the growth rate increased in 2000-2007 at 2.92% and slightly decreased again to 2.42% in period of 2007-2010. The lowest growth rate was registered at 1.17% in the latest 2015 census. (Refer to Table DS-1)

**Table DS-1: Total Population and Growth Rate by Census Year, Quezon City: 1939-2015**

Census Year	Total Population	Annual Growth Rate
1939	39,013	
1948	107,977	12.20
1960	397,990	11.32
1970	754,452	6.60
1975	956,864	4.87
1980	1,165,865	4.03
1990	1,666,766	3.64
1995	1,989,419	3.60
2000	2,173,931	1.92
2007	2,679,450	2.92
2010	2,761,720	2.42
2015	2,936,116	1.17

Source: Philippine Statistics Authority

Viewing it in a larger geographical scale, the city's latest annual population growth rate of 1.17% is lower compared to the National Capital Region's (NCR) rate of 1.58% as well as to the country's growth rate of 1.72%. (See Figure DS-2) It is to be noted however, that for the past four decades, the city's population growth rate was consistently higher than the NCR and the national rates. With the city's current growth rate, the city's population doubling time is 59 years, which is 30 years longer compared to only 29 years recorded in the 2010 census.



**Figure DS-2: Annual Population Growth Rate in Various Census Periods, Quezon City: 1980-2015**

## Population Size and Growth Rate by District

The redistricting of the city into the six (6) Legislative Districts affected the population size of the former District II which, prior to being reapportioned into the additional Districts V and VI in 2012 through Republic Act (RA) 10170, represented more than half (58%) of the city's total population in 2010.

Among the city's six (6) districts, however, District II remains to have the largest population with 688,773 or 23.46% of the city's total population. As to population growth rate, District V registered the fastest rate with 1.79% which is even higher than the city's growth rate of 1.17% while District I had a negative growth rate of 0.23. (See Table DS-2)

**Table DS-2: Population Distribution and Growth Rate by District, Quezon City: 2010, 2015**

District	2010		2015		2010-2015
	Population	Percent	Population	Percent	Growth Rate
I	414,039	14.99	409,162	13.94	(0.23)
II	635,967	23.03	688,773	23.46	1.53
III	307,638	11.14	324,669	11.06	1.03
IV	428,555	15.52	446,122	15.19	0.77
V	488,172	17.68	535,798	18.25	1.79
VI	487,349	17.65	531,592	18.10	1.67
<b>TOTAL</b>	<b>2,761,720</b>	<b>100.00</b>	<b>2,936,116</b>	<b>100.00</b>	<b>1.17</b>

Source: Philippine Statistics Authority

## Barangay Population and Growth Rate

At the barangay level, Bgy. Commonwealth in District II remains to be the most populated barangay with 198,285, a 6.29% increase from 186,543 persons in the 2010 census. Bgy. Quirino 3-A in District III is the least populated barangay with 1,140 residents, a 3.31% decrease from 1,180 in 2010.

Barangay New Era in District VI is noted to have the fastest growth rate of 14.26%. It had a population of only 6,638 in 2010 which doubled to 13,365 in a short span of five (5) years. Majority or 102 barangays, which is 72% of the total and are mostly in Districts II, V & VI, have increased growth rate ranging from 0.01 to 14.16. Meanwhile, forty (40) barangays, particularly those in District I, III & IV have negative growth rate.

### 3.1.2 Population Density

The city's population density increased from 17,140 persons per km<sup>2</sup> in 2010 to 18,222 persons per km<sup>2</sup> in 2015. This is, however, lower compared to Metro Manila's 20,247 persons per km<sup>2</sup>.

**Table DS-3: Population Density (person per km<sup>2</sup>), Quezon City, NCR and the Philippines: 2010 and 2015**

Area	Land Area (km <sup>2</sup> )	2010		2015	
		Population	Density	Population	Density
Quezon City	161.125	2,761,720	17,140	2,936,116	18,222
NCR	636.000	11,855,975	18,641	12,877,253	20,247
Philippines	300,000.000	92,337,852	308	100,981,437	337

Source: Philippine Statistics Authority

District II is the most densely populated district with 31,566 per km<sup>2</sup>, followed by District VI with 24,196 and District I with 20,886 persons per km<sup>2</sup>. The least dense district is District III at 14,865 persons per km<sup>2</sup>. This is attributed to the presence of first class residential subdivisions such as the La Vista, White Plains, Corinthians, Blue Ridge, Green Meadows, St. Ignatius, among others in the area.

**Table DS-4: Population Size and Density per District, Quezon City: 2010 and 2015**

District	Area (sq.km.)	2010		2015	
		Population	Density	Population	Density
I	19.59	414,039	21,135	409,162	20,886
II	21.82	635,961	29,146	688,773	31,566
III	21.84	307,638	14,086	324,669	14,865
IV	23.42	428,555	18,299	446,122	19,057
V	28.03	488,172	17,416	535,798	19,115
VI	21.97	487,349	22,182	531,592	24,196
Reservoir	24.44				
<b>TOTAL</b>	<b>161.125</b>	<b>2,761,720</b>	<b>17,140</b>	<b>2,936,116</b>	<b>18,223</b>

Source: Philippine Statistics Authority

### 3.1.3 Natural Increase in Population

Increase in population is attributed to net natural increase and in-migration. Natural increase is computed as total live births less total deaths. The natural increase in the population for the period between 2010-2015 constitutes 129,826 or 74.44% of the 174,396 increase. The remaining 25.56% or 44,570 people are presumed to be brought about by migration at a lower assumed migration rate in the city compared to the 47.73% in 2010. (Refer to Table DS-5)

Migration data from the PSA 2010 Census of Housing and Population has validated said observation in that Region IV-A or CALABARZON continued to be the most preferred area of migrants with 28% of long distance movers, followed by Metro Manila with 20% and Region III with 13% of the long distance movers. Some cited reasons or factors for migration include the lack of employment and livelihood opportunities and the mismatch of educational attainment and available economic activities in the area of origin. Migration decisions are also facilitated by existing social support and network like having relatives or friends in the area of destination.

**Table DS-5: Yearly Natural Increase of Population, Quezon City: 2007-2015**

Year	Population	Total Yearly Population Increase	Total		Yearly Natural Increase (Births-Deaths)
			Births	Deaths	
2010	2,761,720				
2011	2,836,875	75,155	41,822	12,982	28,840
2012	2,915,774	78,899	42,380	20,353	22,027
2013	2,998,658	82,884	43,038	21,570	21,468
2014	3,085,786	87,128	56,958	21,934	35,024
2015	2,936,116	-149,670	43,617	21,150	22,467
<b>Total</b>		<b>174,396</b>	<b>227,815</b>	<b>97,989</b>	<b>129,826</b>
<b>Total Increase (%)</b>		<b>100.00</b>			<b>74.44</b>

Source: Philippine Statistics Authority; Quezon City Health Department

### 3.1.4 Household Size

The total number of households in 2015 is 683,126, higher by 48,780 households compared to the 634,346 households recorded in 2010. The average household size in the city in 2015 is 4.3 members which is the same as the average household size of 4.3 in year 2010. This comprises more or less a couple with 2 or 3 children or other members of the household. Quezon City has a higher average household size compared to Metro Manila which has 4.1 members per household.

### 3.1.5 Age and Sex Composition

The population of the city as of 2015 is generally young with an average age of 28 years. Females comprise 50.71% (1,488,765) while males comprise 49.29% (1,447,351). Based on the 2015 disaggregated data by PSA, the child and youth population alone (0-30 years old) constituted more than half (58.78% or 1,725,832) of the total population. About 51,480 or 1.75% belong to 0-11 mos. or infant population and 208,844 (7.11%) 1-4 yr. old or child population. A young population is viewed both as an asset because it implies more human resources and a liability because more services will be needed to serve this sector.

Total labor force or working age population or 15 year olds and above in 2015 is 2,041,025 or 69.51% of the total population, 49% of whom are males and 51% are females. There are 196,388 or 6.69% persons comprising the 60 years old and over population, with the elderly female population making up 57.85% compared to the 42.15% elderly male population.

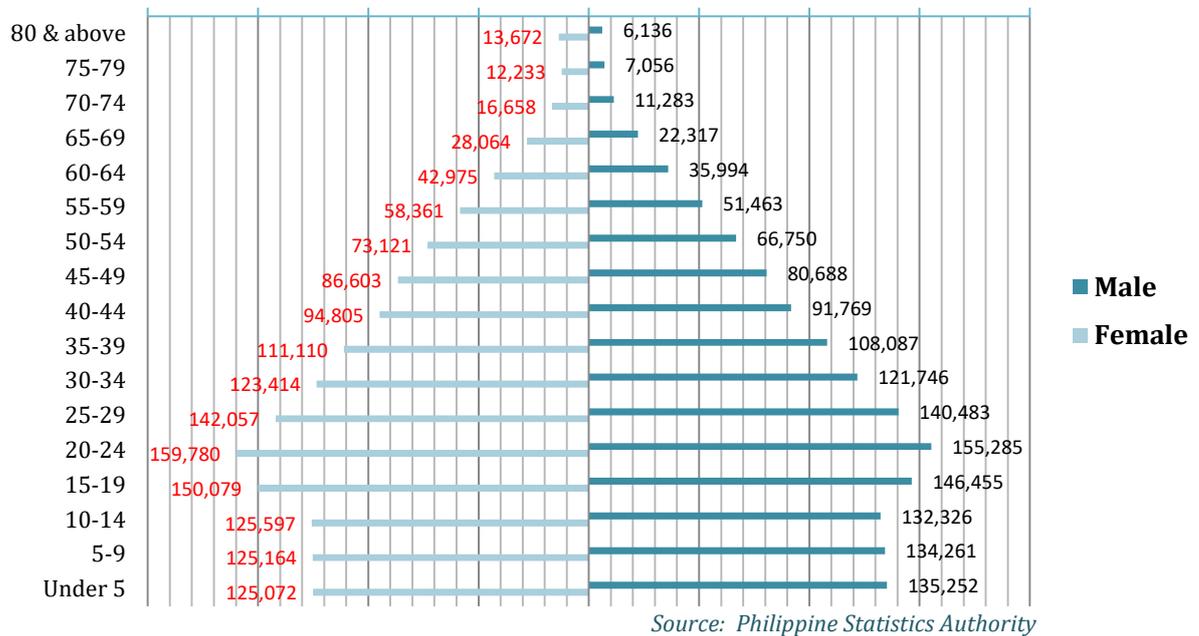


Figure DS-3: Population by Sex and Age Classification, Quezon City: 2015

Dependency ratio in 2015 was computed to be 44 dependents per 100 persons in the working age population. As to sex dependency ratio, it shows that out of the 44 dependents, both male and female dependents are equally distributed (22 male and 22 female dependents). Young dependency ratio is higher (38 dependents) than the elderly (6 dependents).

Female populace in 2015 was 1,488,765 of which 58.29% or 867,848 are of reproductive ages (15-49 years old). The number of women in the reproductive age is an important population indicator since it signifies increased birth rates in the future. The 2014-2018 average annual fertility rate or the number of births per 1,000 women of childbearing age was registered at 92.70.

### 3.1.6 Population Distribution by Marital Status, Religion, Language Spoken, and Ethnicity

In 2015, out of the total of 2,400,247 household population aged 10 years old and over, single population constituted 46.23% and married comprised 37.12%. The rest of the population were categorized as follows: common-law and live-in marital arrangement (10.69%), widowed (3.77%) and divorced/separated (2%). In almost all of the categories for marital status, females outnumbered the males except for the single category. (Refer to Table DS-6)

**Table DS-6: Household Population 10 Years Old and Over by Civil Status and Sex, Quezon City: 2015**

Civil Status	Total	Percent	Male	Percent	Female	Percent
Single	1,109,760	46.23	566,566	51.05	543,194	48.95
Married	891,078	37.12	439,749	49.35	451,329	50.65
Common Law/ Live-in	256,536	10.69	126,873	49.46	129,663	50.54
Widowed	90,427	3.77	17,752	19.63	72,675	80.37
Divorced/Separated	47,931	2.00	15,520	32.38	32,411	67.62
Unknown	4,515	0.19	1,973	43.70	2,542	56.30
<b>TOTAL</b>	<b>2,400,247</b>	<b>100</b>	<b>1,168,433</b>	<b>48.68</b>	<b>1,231,814</b>	<b>51.32</b>

Source: Philippine Statistics Authority

The predominant religion in the city is Roman Catholic including Catholic Charismatic (86.25%). The rest are categorized as follows: Protestant Christians (5.63%) composed of the Protestant, Methodist, Baptist, Pentecostal, and Adventist churches; Iglesia ni Cristo (4.62 %); Islam (1.1%); Non-Trinitarian Christians (0.63%), which include the Church of Jesus Christ of the Latter Day Saints, Jehovah's Witnesses; and others. (See Table DS-7)

**Table DS-7: Total Population by Sex and by Religion, Quezon City: 2015**

Religious Affiliation	Total	Percent	Male	Percent	Female	Percent
Roman Catholic including Catholic Charismatic	2,532,395	86.25	1,251,000	49.4	1,281,395	50.6
Protestant Christians	165,162	5.63	78,390	47.46	86,772	52.54
Iglesia Ni Cristo	135,566	4.62	68,040	50.19	67,526	49.81
Islam	32,242	1.1	16,198	50.24	16,044	49.76
Non-Trinitarian Christians	18,442	0.63	8,550	46.36	9,892	53.64
Other Religious Affiliations	39,397	1.34	19,027	48.30	20,370	51.70
Not Reported	10,124	0.34	4,800	47.41	5,324	52.59
None	2,788	0.09	1,346	48.28	1,442	51.72
<b>TOTAL</b>	<b>2,936,116</b>	<b>100</b>	<b>1,447,351</b>	<b>49.29</b>	<b>1,488,765</b>	<b>50.71</b>

Source: Philippine Statistics Authority

Tagalog is the most commonly used language spoken by 46.78% of the population. The rest are Bisaya/Binisaya (13.47%) Bicolanos (9.03%), Ilocanos (8.13%) and others. (Refer to Table DS-8)

**Table DS-8: Household Population by Ethnicity and Sex, Quezon City: 2010**

Ethnicity	Total	Percent	Male	Percent	Female	Percent
Tagalog	1,287,154	46.78	622,768	48.38	664,386	51.62
Bisaya / Binisaya	370,580	13.47	177,341	47.85	193,239	52.15
Bicolano	248,588	9.03	124,947	50.26	123,641	49.74
Ilocano	223,692	8.13	111,095	49.66	112,597	50.34
Hiligaynon / Ilonggo	119,473	4.34	56,769	47.52	62,704	52.48
Pangasinan / Panggalatok	72,582	2.64	36,658	50.51	35,924	49.49
Cebuano	70,090	2.55	33,898	48.36	36,192	51.64
Kapampangan	47,437	1.72	23,815	50.20	23,622	49.80
Masbateño / Masbateñon	15,763	0.57	7,915	50.21	7,848	49.79
Boholano	14,156	0.51	7,182	50.73	6,974	49.27
Others	281,399	10.23	140,167	49.81	141,232	50.19
None	482	0.02	288	59.75	194	40.25
Not reported	183	0.01	70	38.25	113	61.75
<b>TOTAL</b>	<b>2,751,579</b>	<b>100</b>	<b>1,342,913</b>	<b>48.81</b>	<b>1,408,666</b>	<b>51.19</b>

Source: Philippine Statistics Authority

## 3.2 HEALTH

### 3.2.1 Health Status

**Table DS-9: Summary of Vital Health Statistics, Quezon City: 2015-2018**

	2015		2016		2017		2018	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Live Birth	76,495	24.07	71,565	24.06	65,670	21.79	67,800	22.19
Death	21,150	6.66	22,216	7.47	22,104	7.33	14,189	4.64
Neo-Natal Death	639	8.35	670	9.36	692	10.54	582	8.58
Infant Death	1,165	15.23	1,259	17.59	1,099	16.74	1,007	14.85
Maternal Death	42	54.91	35	48.91	37	56.34	27	39.82
Fertility Rate		96.68		96.63		87.5		86.7
Child Death	412	1.20	419	1.30	375	1.24	294	1.19

Source: Quezon City Health Department

### 3.2.2 Maternal Health

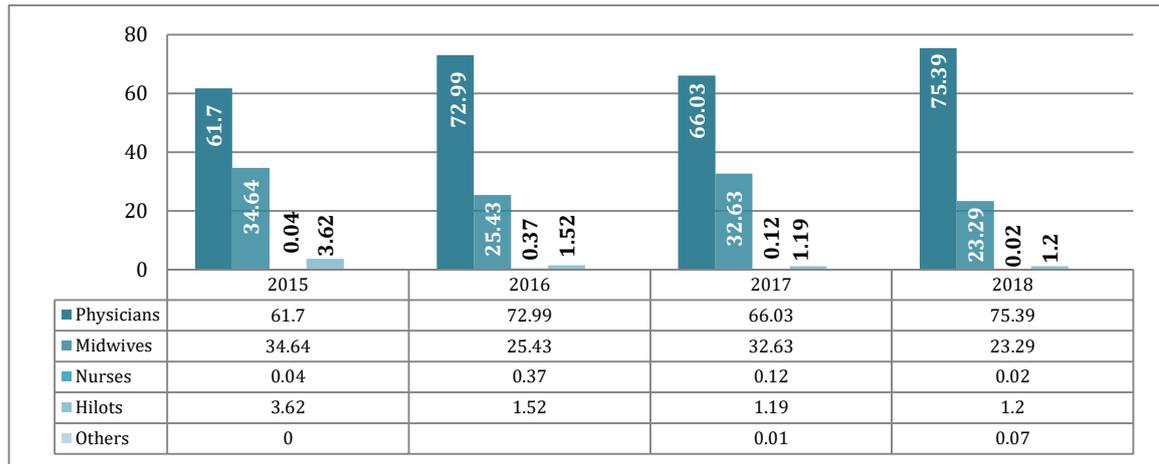
Ensuring good health of the mother and child starts from conception and sustained after birth delivery. Maternal care for safe motherhood should thus, be observed and this can be gauged by the quality of pre-natal, natal and post-natal care and services given to mothers. Pre-natal check-up of 93,183 pregnant women in 2018 exceeds by 10,680 or 12.94% more of the 82,503 target pregnant women, of which 54.73% had early pre-natal check-up or first trimester check-up which is higher than the 49.41% early pre-natal coverage in 2015. More than half (56.51%) of the 93,183 pregnant women were given complete iron supplementation, to prevent or treat iron deficiency anemia.

On the other hand, the provision of at least 2 doses of tetanus toxoid immunization (TT2) was accorded to 43.05% of the target pregnant women seen which is higher compared to Metro

Manila’s 30.46% coverage. Tetanus toxoid is given to pregnant women to prevent tetanus in newborn babies.

Birth rate decreased from 24.07 per 1,000 population in 2015 to 22.36 per 1,000 population in 2018. There are more (52.50%) male births than female (47.50%) births.

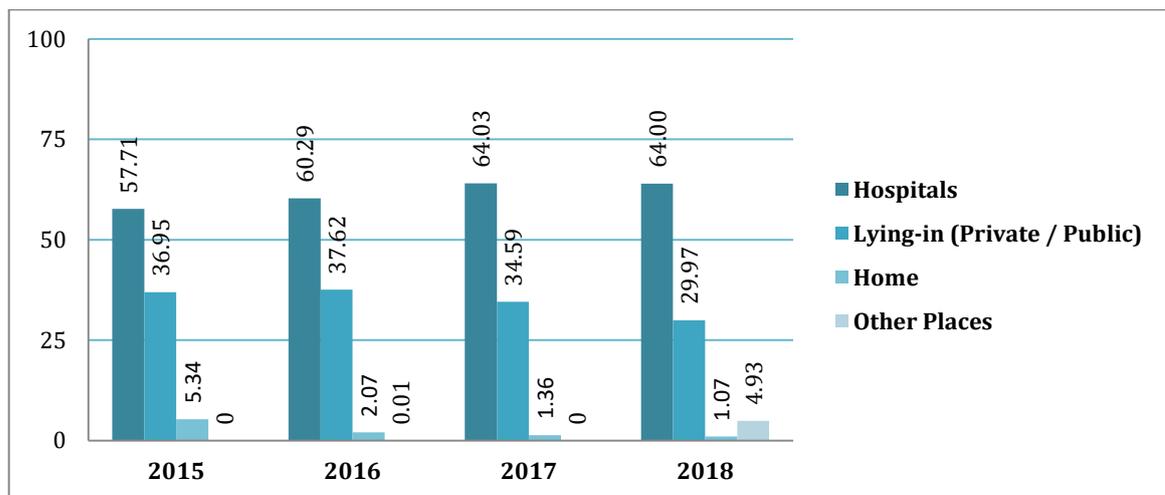
Most of birth deliveries were attended by physicians (75.39%), midwives (23.29%) and nurses (0.02%) or 98.70% attended by skilled health personnel which is higher compared to 96.38% attended by skilled health personnel in 2015. Noted is the significant decrease of birth deliveries attended by “hilots”, from 3.62% or 1,581 deliveries in 2015 to 1.20% or 814 deliveries in 2018. (See Figure DS-4)



Source: Quezon City Health Department

Figure DS-4: Births Attended by Health Personnel, Quezon City: 2015-2018

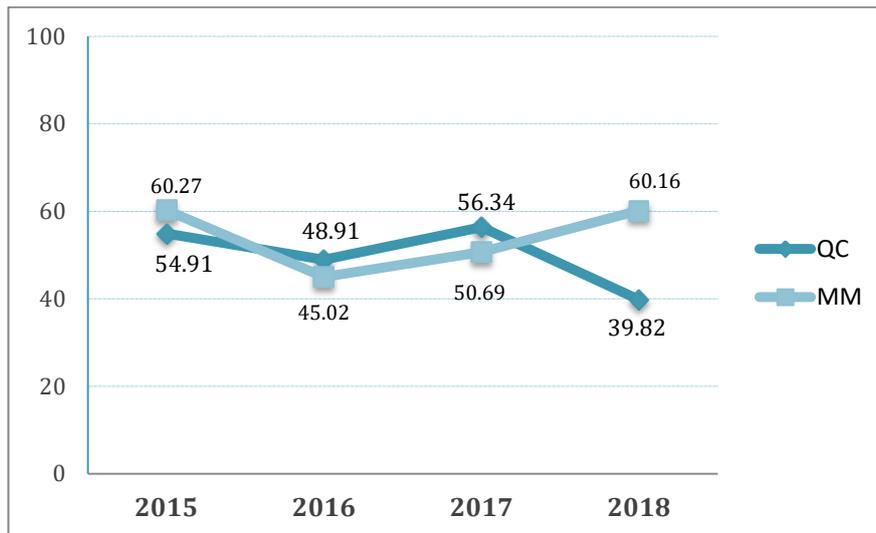
The figures on the deliveries attended by skilled personnel may be associated with the place of delivery. Figure DS-5 shows that 93.97% are facility-based deliveries (64% in hospitals and 29.97% in public/private lying-in-clinics) or 0.69% slight decrease from the 94.66% deliveries in public and private facilities in 2015. On the other hand, deliveries done at home was only 1.07% compared to 5.34% in 2015. (Refer to Figure DS-5)



Source: Quezon City Health Department

Figure DS-5: Births by Place of Delivery, Quezon City: 2015-2018

Maternal mortality rate in 2015 decreased from 54.91 per 100,000 live births or 42 maternal deaths to 48.91 per 100,000 live births or 35 maternal deaths in 2016 but had increased to 56.34 per 100,000 live births or 37 maternal deaths in 2017. However, in 2018, it declined to only 39.82 per 100,000 live births or 27 maternal deaths in 2018. If compared with the Metro Manila’s maternal mortality rate, the graph below also shows that for the last two (2) years, the city’s rate is consistently higher from 2016 to 2017 and only in 2018 that it was noted to be lower against 60.16 per 100,000 live births or 149 maternal deaths in the National Capital Region. (See Figure DS-6)



Source: Quezon City Health Department & Center for Health & Development. DOH-NCR

Figure DS-6: Trends of Maternal Mortality Rate (Per 100,000 Live Births), Quezon City & Metro Manila: 2015-2018

Maternal deaths may be attributed to the number of mothers who still deliver their babies through “Hilots”. Pre-Eclampsia/Eclampsia, Uterine Atony/Postpartum Hemorrhage, and Amniotic Fluid Embolism were the first 3 primary causes of maternal deaths.

### 3.2.3 Child Health

A child’s growth and development depends largely on sustainable and good health condition. Children are more susceptible to the risk of dying if not given enough care and food supplements at the early stage of their lives. Infants aged 0-11 months should have completed their vaccination against preventable diseases such as Diphtheria, Polio, Tuberculosis, Measles and Hepatitis B.

In 2018, fully immunized children covered a total of 84,522 infants or 102% of the 82,503 target children. The percentage coverage is higher compared with the 96.94% or 83,169 children in 2015, however, this is below the 85,791 targeted number of children. In 2018, 92% or 74,523 infants were exclusively breastfed up to 6 months. This percentage is higher compared to 67.66% or 58,053 of the 85,791 covered in 2015.

The infant mortality rate of 15.23 per 1,000 live births in 2015 increased to 17.59 in 2016. However, in 2017, this decreased to 16.74 per 1,000 live births and again to 14.85 in 2018. This is slightly lower compared to NCR’s infant mortality rate of 15.04 per 1,000 live births. Figure DS-

7 also shows that for two (2) consecutive years, between 2016 and 2017, infant mortality rate in the city is higher than the NCR rate but decreased significantly in 2018.

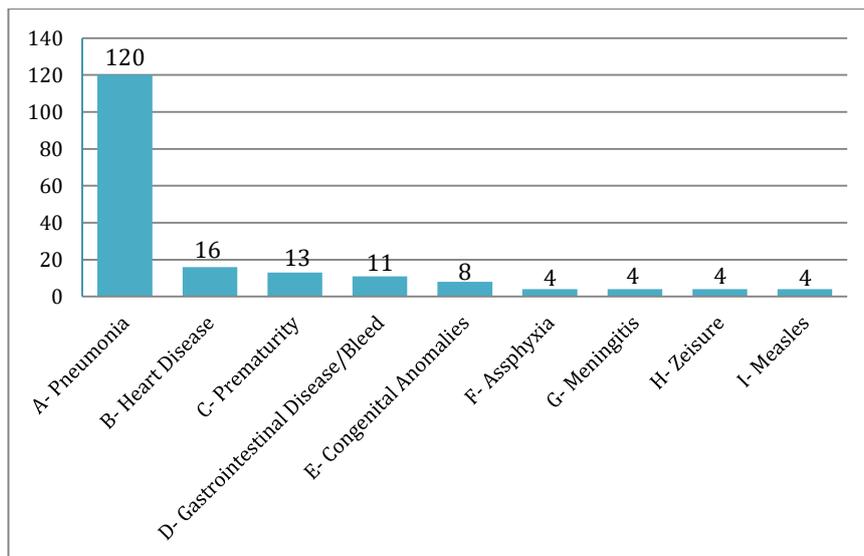
There are more male infant deaths (54.22%) than female infant deaths (45.77%) out of the 1,007 recorded cases of infant deaths in 2018.



Source: Quezon City Health Department  
Center for Health & Development, DOH-NCR DOH

Figure DS-7: Trends of Infant Mortality Rate (Per 1,000 Live Births), Quezon City and National Capital Region: 2015-2018

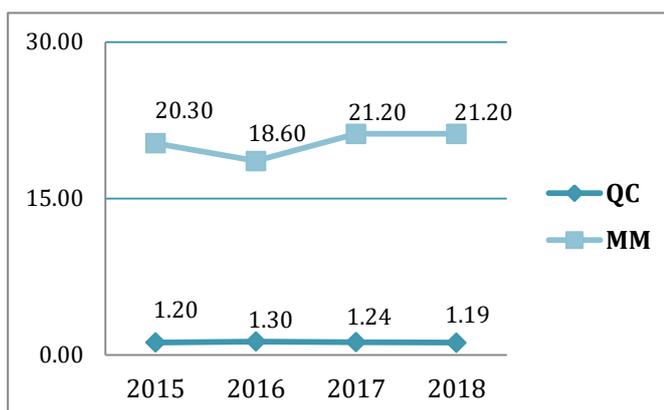
Pneumonia, Disease of the Heart and Prematurity are the 3 leading causes of death among infants. Prematurity has always been among the top 3 causes of deaths in the last three years. Other causes of infant deaths include Gastrointestinal Disease/Bleed, Congenital Anomalies, Asphyxia, Meningitis, Seizure, Dengue and Measles. (Refer to Figure DS-8)



Source: Quezon City Health Department

Figure DS-8: Number of Infant Death by Type of Causes (Per 1,000 Live Births), Quezon City: 2018

On the other hand, the number of deaths among children aged 1-4 years old for the last three (3) years indicated that although there was a decrease from 1.20 per 1,000 population aged 1-4 years old or 412 cases in 2015 to 1.19 or 294 cases in 2018, the child mortality rate in the city is much lower compared to Metro Manila's child mortality rate of 21.20 per 1,000 population of children aged 1-4 years old. (Refer to Figure DS-9)



Source: QC Health Department, Center for Health & Development, DOH

Figure DS-9: Trend of Child Mortality Rate (Per 1,000 Pop'n 1-4 Years Old), QC and NCR: 2015-2018

More male children (54.19%) aged 1-4 years old died at an early stage than female (45.81%). The top 3 leading causes of child mortality in 2018 are: Pneumonia, Disease of the Heart, Diarrhea and Gastroenteritis. For the last three years, Bronchopneumonia and Gastroenteritis consistently ranked 1<sup>st</sup> and 2<sup>nd</sup> as top leading causes of child mortality.

### 3.2.4 Nutrition

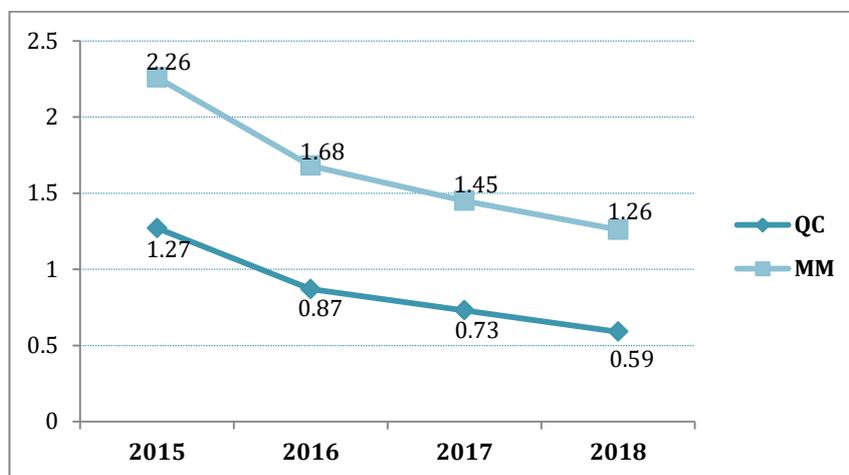
The Operation *Timbang* conducted in 2018 covered 397,275 or 96% of children aged 0-6 years old. Of this, 99% or 393,268 children are normal, 1,685 or 0.42% are overweight, 1,695 or 0.43% are underweight and 627 or 0.16% are severely underweight children. The underweight and severely underweight children constitute the incidence of malnutrition of 0.59% or a total 2,322 cases of malnourished children in the city. This was, however, noted to have decreased from the 1.27% malnutrition rate in 2015 or 6,098 malnourished children. The identified underweight and severely underweight children in 2018 were all given iron supplementation (Refer to Table DS-10).

Table DS-10 : Percent and Total Distribution of Children Weighed (0-6 Years Old), Quezon City: 2015-2018

Classification	2015		2016		2017		2018	
	No.	%	No.	%	No.	%	No.	%
Severely underweight	1,390	0.29	1,047	0.21	816	0.18	627	0.16
Underweight	4,708	0.98	3,236	0.66	2,545	0.55	1,695	0.43
Normal	473,638	98.09	487,237	99	456,404	99	393,268	99
Overweight	3,108	0.64	1,490	0.30	1,698	0.37	1,685	0.42
	Actual		Actual		Actual		Actual	
Operation Timbang	482,844	93.73	493,010	93.00	461,463	95.00	397,275	96.00

Source: Quezon City Health Department

Comparing the city's prevalence of malnutrition with that of Metro Manila, the data gathered showed that the city's 2018 rate of 0.59% is lower against the Metro Manila's 1.26%. The graph below also showed that for the last four (4) years (2015-2018), Quezon City has consistently maintained lower malnutrition rate than Metro Manila (Refer to Figure DS-10).



Source: National Nutrition Council-NCR

Figure DS-10: Prevalence of Malnutrition among Children (0-71 mos. old); Quezon City and National Capital Region: 2015-2018

Looking into the malnutrition rates among the 16 cities and one municipality in the National Capital Region (NCR), Quezon City has improved from ranked 13<sup>th</sup> in 2015 to ranked 14<sup>th</sup> in 2018. The City of Manila had the highest prevalence of malnutrition at 2.95%, followed by Malabon with 2.86% and Las Piñas at 2.76% (See Table DS-11).

Table DS-11: Prevalence of Malnutrition of Cities and Municipalities Ranked Accordingly, National Capital Region: 2015-2018

2015			2018		
Rank	Cities/Municipality	%	Rank	Cities/Municipality	%
1	Caloocan	4.59	1	Manila	2.95
2	Malabon	3.90	2	Malabon	2.86
3	Manila	3.19	3	Las Pinas	2.76
4	Pasay	3.17	4	Pateros	1.97
5	Las Pinas	2.91	5	Paranaque	1.58
6	Muntinlupa	2.87	6	Caloocan	1.53
7	Navotas	2.19	7	Pasay	1.38
8	Paranaque	1.99	8	Navotas	1.37
9	San Juan	1.81	9	Pasig	1.17
10	Valenzuela	1.54	10	Valenzuela	1.03
11	Pasig	1.51	11	Muntinlupa	1.02
12	Pateros	1.44	12	Marikina	1.01
<b>13</b>	<b>Quezon City</b>	<b>1.26</b>	13	Mandaluyong	0.60
14	Marikina	1.16	<b>14</b>	<b>Quezon City</b>	<b>0.58</b>
15	Mandaluyong	0.86	15	San Juan	0.55
16	Makati	0.57	16	Makati	0.45
17	Taguig	0.55	17	Taguig	0.33

Source: National Nutrition Council-NCR

At the district level, District II had the highest prevalence of malnutrition at 0.66%. Other districts got lower prevalence malnutrition rates of 0.63 % in District VI; 0.61% in District V; 0.51% in District I and IV and; 0.45% in District III.

### 3.2.5 Family Planning

In managing birth rate, various family planning methods were used. The city's current users increased from 325,323 in 2015 to 350,734 or 7.81% in 2018. As for the contraceptive prevalence rate for 2018, this was registered at 93.13%, higher compared to only 83.10% in 2015. The increase in the number of family planning users may be attributed to massive information and education campaign (TV, radio, mass media, Internet, health events) and personal contact with advocates (Community Health Team field operations and Family Planning-Maternal and Child Health integration at point service).

Pills remain to be the most commonly used contraceptive with 129,557 or 36.94% of the total current users followed by Condom 75,677 or 21.58% and Injectable Depomedroxyprogesterone Acetate (DMPA) with 56,079 users or 15.99% of the family planning current users. (Refer to Table DS-12)

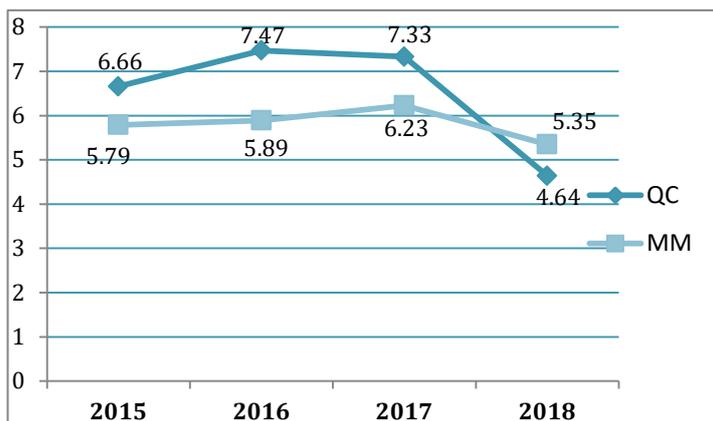
**Table DS-12 : Family Planning Users by Methods, Quezon City: 2015-2018**

Methods	CURRENT USERS			
	2015	2016	2017	2018
<b>Bilateral Tubal Ligation (BTL)</b>	31,631	32,808	33,483	32,983
<b>VASECTOMY</b>	380	356	321	829
<b>PILLS</b>	110,411	121,921	128,782	129,557
<b>Intrauterine Contraceptive Device (IUD)</b>	26,179	28,980	31,276	33,773
<b>Injectable Depomedroxyprogesterone Acetate (DMPA)</b>	49,326	50,011	54,485	56,079
<b>CONDOM</b>	63,959	76,011	79,180	75,677
<b>Implant</b>	7,938	8,428	6,691	5,064
<b>Natural Family Planning (NFP)</b>				
Lactational Amenorrhea Method (LAM)	33,572	32,183	31,550	14,728
Cervical Mucus Method (CM)	106	47	21	24
Mercedes Wilson	0	0	0	0
Basal Body Temperature Method (BBT)	3	0	0	0
2 Day Method	0	0	0	0
Symothermal Method (STM)	0	0	0	0
Standard Day Method (SDM)	1,818	1,983	1,924	2,020
Total (NFP)	35,499	34,213	33,495	16,772
<b>Current Users</b>	<b>325,323</b>	<b>352,728</b>	<b>367,713</b>	<b>350,734</b>
<b>Eligible Population</b>	<b>391,619</b>	<b>366,573</b>	<b>371,481</b>	<b>376,612</b>
<b>Contraceptive Prevalence Rate</b>	<b>83.10</b>	<b>96.2</b>	<b>98.99</b>	<b>93.13</b>

Source: Quezon City Health Department

### 3.2.6 Mortality

The primary indicator of mortality is the crude death rate. This indicator refers to the number of deaths per 1,000 population in a given year. Mortality rate for all ages between 2015 and 2016 increased from 6.66 per 1,000 population in 2015 to 7.47 in 2016 but slightly decreased to 7.33 in 2017 and declined further to 4.64 in 2018. There are more male deaths (55.50%) than female deaths (44.50%).



Source: Quezon City Health Department, Center for Health and Development, DOH

The 2018 city's mortality rate for all ages of 4.64 was also noted to be lower than Metro Manila's rate of 5.35 per 1,000 population. In three (3) previous years from 2015 to 2017, the city's mortality rate was higher than Metro Manila. It is only in 2018 that it got a lower mortality rate than Metro Manila. (Refer to Figure DS-11)

**Figure DS-11 : Trends of Mortality Rate (All Ages) Quezon City & Metro Manila: 2015-2018**

From the 10 leading causes of death for all ages in the city, Pneumonia, Myocardial Infarction and Hypertension are the top 3 leading causes of death in 2018. Table DS-13 shows that for the year 2015-2018, Pneumonia was consistently recorded as the number one leading cause of death while Hypertension which was 7<sup>th</sup> in 2015 went up to number 3 from 2016-2018. Myocardial Infarction was ranked 3<sup>rd</sup> in 2015 going down to number 4 in 2017 but soared to number 2 in 2018. Cancer, Tuberculosis and Diabetes Mellitus have been recorded consistently as the leading causes of death.

**Table DS-13: Leading Causes of Death (All Ages), QC, 2015-2018 Quezon City: 2015-2018**

Rank	Leading Causes of Death							
	2015	No.	2016	No.	2017	No.	2018	No.
1	Pneumonia	1821	Pneumonia	3683	Pneumonia	4327	Pneumonia	2970
2	Cancer (All Forms)	1765	Cardiovascular/Coronary Artery Disease	2564	Cancer (All Forms)	3349	Myocardial Infarction	2088
3	Myocardial Infarction	1558	Hypertension	1550	Hypertension	3117	Hypertension	2082
4	CVA/Bleed/Infarct	1096	Cancer (All Forms)	1229	Myocardial Infarction	2230	Cancer (All Forms)	1776
5	Coronary Artery Disease (CAD) / Ischemic Heart Disease (IHD) / Coronary Heart Disease (CHD)	930	Cerebrovascular Disease	885	Diabetes Mellitus	1019	Diabetes Mellitus	666
6	Diabetes Mellitus	898	Diabetes Mellitus	608	Cardiovascular Disease	1005	Cerebrovascular Accident	503
7	Hypertension	894	Tuberculosis	421	Prematurity	632	Cardiovascular Disease	487
8	Tuberculosis (All Forms)	684	Gunshot Wounds/Injuries	376	Cerebrovascular Accident	478	Accidents/ Traumatic Injuries	389
9	Other Lung Disease	642	Carcinoma/ Mass Other Forms	210	Pulmonary Tuberculosis	430	Disease Of The Heart	387
10	Hypertensive Cardiovascular Disease (HCVD) / Hypertensive Arteriosclerotic Cardiovascular Disease (HASCVD) / Arteriosclerotic Heart Disease (ASHD) / Atherosclerosis	547	Accidents/ Trauma Injuries	199	Disease of The Heart	403	Tuberculosis (All Forms)	296

Source: Quezon City Health Department

### 3.2.7 Morbidity

In 2018, cases of illness reported were 90,348, a decrease of 28.91% or 36,741 cases over the 127,089 record in 2015. This decrease is a good indication of an improved health status of the populace.

Upper and Lower Respiratory Tract Infection remains to be the top cause of morbidity in 2018, followed by Hypertension, Pulmonary diseases and Skin Diseases. Pulmonary Tuberculosis (PTB) was ranked 6<sup>th</sup> in 2015, went up as number 4 in 2016, and back to rank 6<sup>th</sup> in 2017. However, in 2018, it was no longer included in the top ten (10) leading causes of illnesses.

**Table DS-14: Top Ten Leading Causes of Morbidity  
Quezon City: 2015 – 2018**

Rank	LEADING CAUSES OF MORBIDITY			
	2015	2016	2017	2018
1	Upper Respiratory Tract Infection	Upper Respiratory Tract Infection	Respiratory Tract Infection	Respiratory Tract Infection
2	Skin Disease	Hypertension	Urinary Tract Infection	Hypertension
3	Urinary Tract Infection	Lower Respiratory Tract Infection	Hypertension	Pulmonary Diseases
4	Hypertension	Tuberculosis All Forms	Skin Infection	Skin Diseases/ Infection
5	Intestinal Parasitism	Urinary Tract Infection	Intestinal Parasitism	Gastrointestinal Diseases
6	Tuberculosis	Diarrhea And Gastroenteritis	Tuberculosis (All Forms)	Diabetes Mellitus
7	Acute Gastroenteritis	Diabetes Mellitus	Diarrhea And Gastroenteritis	Urinary Tract Infection
8	Viral Infection	Abdominal Pregnancy	Viral Infection	Systemic Viral Infection
9	Conjunctivitis	Intestinal Parasitism	Diabetes Mellitus	Abrasion/ Laceration/ Wound
10	Asthma	Cutaneous Abscess, Furuncle And Carbuncle	Allergic Reaction	Musculoskeletal Disorder

Source: Quezon City Health Department

Disease of the respiratory system was noted as the leading cause of both mortality and morbidity in the city, an indicator of a deteriorating environment characterized by climate change, pollution, congested living conditions and unsanitary surroundings.

### 3.2.8 Disease Prevention and Control

#### Pulmonary Tuberculosis Cases

Top ten (10) leading causes of deaths for all ages, in 2018, include Pulmonary Tuberculosis or all forms of TB. TB case detection rate shows that it significantly decreased from 108.00% in 2015 to 69% in 2018. This is lower compared to Metro Manila's TB case detection rate of 73%. Among the city's six (6) districts, District IV recorded the lowest case detection rate of 49% while District II had the highest TB case detection rate of 90%.

TB Cure Rate, now called the Treatment Success Rate (TSR), declined from 93% in 2015 to 87% in 2018 which is lower than the Metro Manila's TSR of 89%. This is due to increasing number of TB patients who discontinued and failed to complete their treatment. District VI had the highest Treatment Success Rate of 95% while District IV had the lowest TSR of 87%.

## Dengue Cases

There were 74 Dengue deaths reported in 2018 or 0.91% of the 8158 reported Dengue cases in the city. There was an increase of 35 deaths from the 39 cases or 0.60% Dengue fatality rate in 2015.

Most Dengue deaths were reported in District V with 1.32% fatality rate while District II had 1.09%; District I with 0.94%; District III with 0.76%; District VI with 0.74%; and lowest in District IV of only 0.64% fatality rate. (See Table DS-15)

**Table DS-15: Dengue Case Fatality Rate per District, Quezon City: 2015 & 2018**

	Dengue Case Fatality Rate (%)	
	2015	2018
Quezon City	0.60	0.91
District I	0.53	0.94
District II	1.16	1.09
District III	1.08	0.76
District IV	0.25	0.64
District V	0.21	1.32
District VI	0.60	0.74

Source: Quezon City Health Department

### 3.2.9 Access to Safe Water

Based on the records of the Department of Health-NCR and Quezon City Health Department, households with access to safe water had reached 100% in 2018 from 98.06% in 2015. These figures are higher compared with NCR's 92.19% households with access to potable water. All districts have 100% access to potable water.

#### 3.2.10 Access to Sanitary Toilets

Records showed that among households, 99% have access to sanitary toilets in 2018. This rate is higher than Metro Manila's 87.23% of households with sanitary toilets in the same year.

#### 3.2.11 Health Facilities and Services

Improved health condition of the city populace depends largely on the effective delivery of basic health services and existence of adequate health facilities and personnel.

##### Health Centers/Super Health Centers

The city has a total of sixty-six (66) health centers, seven (7) of which are super health centers with lying-in clinics and fifty-nine (59) are classified as regular health centers providing primary health care services. There are also ten (10) sub-health stations. Majority of the health

centers and super health centers are certified *Senrong Sigla* which means that these facilities have met the standards set by the Department of Health (DOH) in promoting availability of good quality health services to the city's constituents.

Distribution of these facilities by district shows that thirteen (13) are in District I with 12 regular health centers and one super health center (San Francisco Super Health Center). District II has 10 regular health centers and 2 super health centers (Batasan and Betty Go Belmonte SHCs), District III with 8 regular health centers and one super health center (Murphy SHC), District IV has 10 regular and one super health center (Kamuning SHC), District V has 10 regular health centers and two (2) super health centers (Novaliches and Sta. Lucia SHCs). District VI has no super health center but has 9 regular health centers.

Integrated or within some of the city's health center compounds are four (4) Social Hygiene Clinics in Project 7, Batasan and P. Bernardo and Novaliches; four (4) Male Sundown clinics in Klinika Bernardo, Klinika Novaliches, Klinika Project 7 and Batasan Hills, three (3) adolescent teen health quarters in Cubao, Commonwealth and NGC; and thirty-two (32) microscopy centers performing TB-DOTS and other laboratory procedures.

The fifty-nine (59) regular health centers operate daily except weekends and holidays from 8:00 am to 5:00 pm while the seven (7) super health centers operate 24 hours catering to lying-in/obstetrics patients and other emergency cases. On the other hand, social hygiene clinics offer services from 8:00 am to 5:00 pm while the sundown clinics provide services from 3:00 pm to 11:00 pm to cater to call center employees and to ensure privacy of the patients availing of their services.

While the average patients served per day varies on the location of the health center, in 2018, Gulod Health Center has the highest number of patients served per day with 282 patients while Masambong Health Center has the least number with 29 patients served per day.

The establishment of every health center follows a standard of one (1) health center per fifty thousand (50,000) population (1:50,000). Table DS-16 on the health center–population ratio per district below indicates that only District II and District VI have a deficiency of two (2) health centers each while the rest (Districts I, III, IV and V) have more than the required number of health centers to meet the standard of 1:50,000.

*Table DS-16: Health Center - Population Ratio by District, Quezon City: 2018*

District	Population	Existing Health Centers	Required Health Centers	Health Center	
				Needs	Excess
District I	423,732	13	8		5
District II	713,300	12	14	2	
District III	336,231	9	7		2
District IV	462,009	11	9		2
District V	554,878	12	11		1
District VI	550,522	9	11	2	
<b>Total</b>	<b>3,040,672</b>	<b>66</b>	<b>60</b>	<b>4</b>	<b>6</b>

In addition, the city has one (1) employees' clinic, two (2) upgraded Public Health Laboratory located at the Quezon City Health Department and Novaliches District Center (NDC)

and one (1) Quality Assurance Laboratory Center performing external quality assessment of all TB microscopy laboratories situated at Bgy. Bagong Pagasa.

## **Hospitals**

The city is host to a total of seventy-one (71) hospitals, 17 of which are government-owned and 54 are privately-owned hospitals. Of the total number of hospitals located in the city, thirty-seven (37) are classified as tertiary hospitals or hospitals with metro wide and nationwide service areas and usually have complete service facilities. Nineteen (19) other hospitals are classified as secondary and fifteen (15) are primary hospitals.

The tertiary types of hospitals are mostly found in District I and IV. Some of these are offering highly specialized services, among which are the Philippine Heart Center for Asia, National Kidney and Transplant Institute (NKTII), Lung Center of the Philippines and the ultra-modern St. Luke's Medical Center.

The two (2) city-owned hospitals, the Quezon City General Hospital (QCGH), a tertiary hospital, and Novaliches District Hospital (NDH), a secondary hospital, serve as referral centers for the different health centers and other hospitals and clinics. Since the creation of said hospitals, both have pursued the objective of providing the people, particularly the low-income residents of the city the best medical care that the city government can afford. The QCGH and NDH provide patient treatment, ambulatory and domiciliary care and preventive services and serves as center for training of health workers and allied professions and for advancement of medical services through research. On the other hand, there is also an ongoing construction of a Level Two Rosario Maclang Bautista General Hospital (RMBGH) with 107 beds situated at Bgy. Batasan Hills.

## **Hospital Bed Capacity**

The city's combined total bed-capacity in public and private facilities is 10,599 with an over-all bed-population ratio of 1:287 in 2018. This is way above the standard bed population ratio of 1:2000. District IV where most of the tertiary and specialized hospitals are found, recorded the most number of hospitals with 4,889 bed capacity.

About 55.42% or 5,874 beds belong to government hospitals while 44.58% or 4,725 beds are from private hospitals. District VI recorded the lowest bed capacity with 260 beds in the 6 hospitals. District IV, on the other hand, registered 4,889 beds of the combined eighteen (18) hospitals. District I has a combined bed capacity of 3,155 in sixteen (16) hospitals while those located in District V which are classified mostly as secondary health institutions have a total of 1,016-bed capacity in twenty (20) hospitals while District III has 1,279 beds in eleven (11) hospitals. Two (2) city-run public hospitals, Quezon City General Hospital (QCGH) in District I has 250 beds and Novaliches District Hospital (NDH) in District V has 100 beds that cater mostly to urban poor residents particularly, the northeastern portion of the district. East Avenue Medical Center and Quirino Memorial Medical Center both located in District IV are national government-operated hospitals with regional service area.

Considering that public hospitals cater to urban poor residents numbering about 810,761 in 2018, the bed to population ratio for public hospitals alone is 1 bed per 405 persons which is way above the standard bed-population ratio of 1:2000. The hospital bed requirement therefore is computed to be 302 beds. The city therefore, has no shortage of hospital beds considering that the existing number of beds for government hospitals catering to the public which includes

Quezon City General Hospital, Novaliches District Hospital, East Ave Medical Center, Quirino Memorial Medical Center, Quezon Institute, National Children's Hospital, Philippine Children's Medical Center and Veterans Memorial Medical Center is 2,686 beds.

Bed occupancy rates for the 2 city-operated hospitals for the year 2018 is 82.19% for the Quezon City General Hospital and 317% for the Novaliches District Hospital.

### **Other Health Facilities**

The city houses 2,652 various health and wellness facilities such as medical clinics (1024), lying-in clinic/birthing homes/maternity clinics (173), optical clinics (76), dental clinics (442), dental laboratories (4), dermatology clinics (108), skin care clinics (72), diagnostic centers (297), dialysis centers/clinics (77), veterinary clinics (38), surgical clinics (3), psychiatric rehabilitation centers (18) and combined various health and wellness facilities (320).

Responsible for the treatment and rehabilitation of drug dependents is the City's Drug Treatment and Rehabilitation Center popularly known as "TAHANAN" which occupies an approximately 3,000 sq.m. property situated at Diamond Hills, Brgy. Payatas.

Funeral and burial needs of the populace are being addressed by three (3) public cemeteries and three (3) private memorial parks. There are forty-five (45) funeral parlors in the city, including eleven (11) private crematoriums/ columbaria/ossuaries.

### **Health Personnel**

In 2018, the city's total health personnel numbered to 2,103. The Quezon City Health Department has 1,142 medical staff, the Quezon City General Hospital has 541 and the Novaliches District Hospital has 420. The current number of the city's medical personnel increased by 461 or 28% from 1,642 in 2015. Of the city's total health staff, 459 are physicians, 550 are nurses, 64 are dentists, 237 midwives and the remaining 793 belong to the non-paramedical staffs, which include medical, dental and laboratory support, dental aide, nutritionists-dietician, food-drug regulation staff, medical technologist, radiologic technologists, laboratory aide and dialysis technician, HIV/AIDS lecturer, THQ health educator and administrative staff and barangay health workers (BHWs).

The 2018 government physician-population ratio and dentist-population ratio is 1:804 and 1:47,510, respectively. The physician-population ratio is way above the standard ratio of 1:20,000 while that of the dentist-population is far below the standard of 1:20,000. This means that there is no shortage of physicians but the city is in need of more dentists. On the other hand, the government nurse-population ratio is 1:668 against the standard ratio of 1:15,000 and the government midwife-population ratio is 1:5,836, which is below the standard ratio of 1:5,000. It indicates that the city is no longer in need of additional nurses but is short of 87 midwives.

### 3.3. EDUCATION

#### 3.3.1 Literacy and Highest Grade Completed

The city has a high literacy rate of 99.71% based on the 2015 PSA official census. This is slightly lower (0.03%) than the 2010 literacy rate of 99.74%. For both census years, male and female literacy rate in the city is almost equal (99.71%-male and 99.72%-female) for 2015 and (99.74%-male and 99.73%-female) for 2010. (See Figure DS-12)

Comparing the city's literacy rate in 2010 with the NCR, it was noted that this is higher than NCR's 99.20%. For both census years, the city's literacy rate is higher than the national literacy rate of 90.3% per 2013 Functional Literacy Education and Mass Media Survey (FLEMMS).

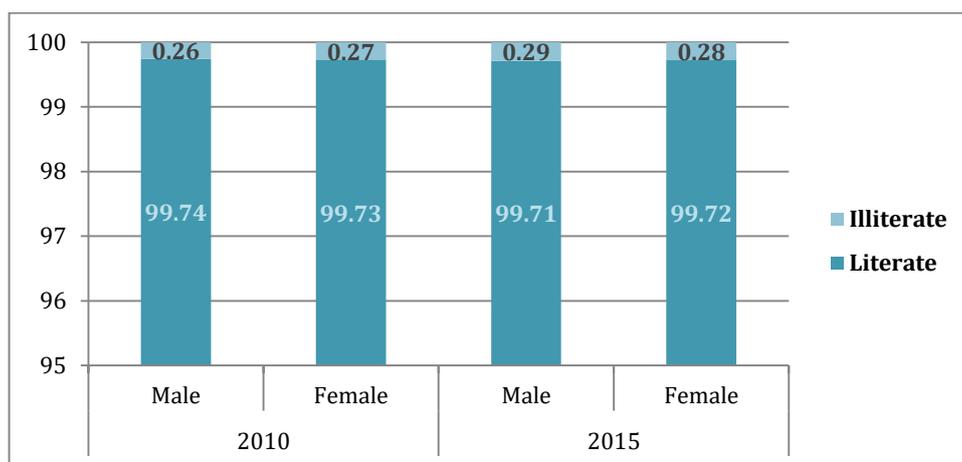


Figure DS-12: Literacy Rate by Sex, Quezon City: 2010 and 2015

Of the 2,409,418 literate population 10 years old and over, 42.20% are ages 35 years old and over, 35.93% belong to 10-24 years old, 11.71% are ages 25-29 and 10.16% are 30-34 years old.

On the other hand, the 6,949 illiterate population 10 years old and over, shows that more than half (56.38%) are in the ages 10-24 years old which is the age group that should have been in school. About 11.01% are ages 25-34 years old, while 2,266 (32.61%) are in the ages 35 and over. Illiteracy among males is slightly higher (0.29%) than among females (0.28%). (See Table DS-17)

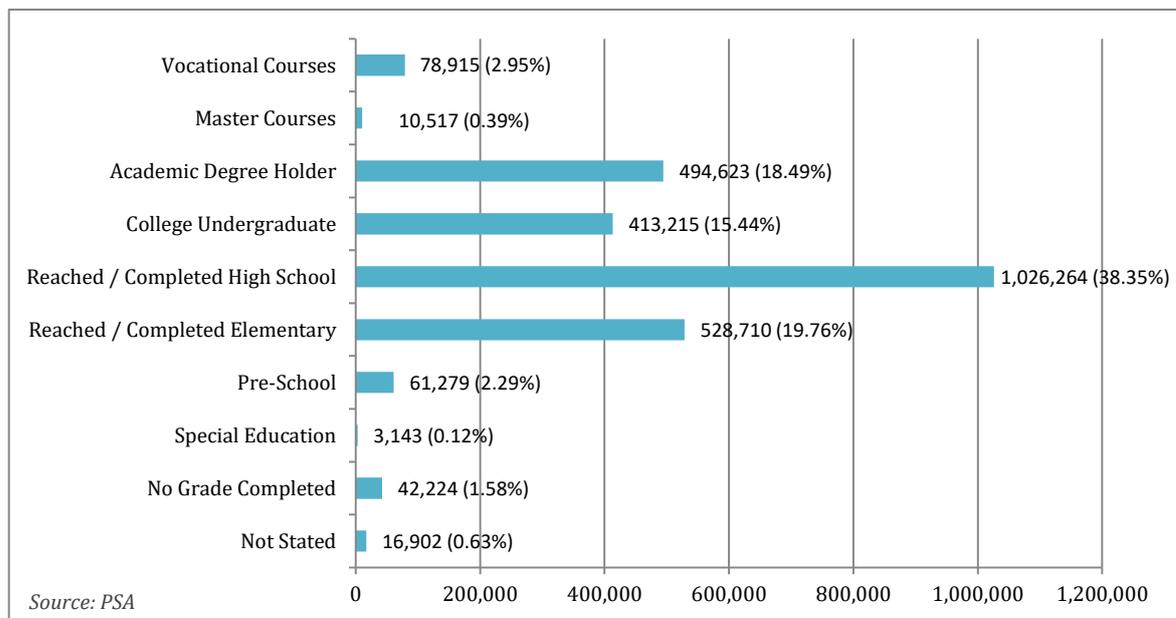
Table DS-17: Literacy of Households Population 10 Years Old and Over by Age Group and Sex, Quezon City: 2015

Age Group	Literate				Total		Illiterate				Total		Overall	
	Male		Female		No	%	Male		Female		No	%	No	%
	No.	%	No.	%			No.	%	No.	%				
10 - 24	431,903	36.78	433,701	35.12	865,604	35.93	2163	62.77	1755	50.10	3918	56.38	869,522	35.98
25 - 29	140,238	11.94	141,881	11.49	282,119	11.71	245	7.11	176	5.02	421	6.06	282,540	11.69
30 - 34	121,559	10.35	123,257	9.98	244,816	10.16	187	5.43	157	4.48	344	4.95	245,160	10.15
35 & Over	480,692	40.93	536,187	43.42	1,016,879	42.20	851	24.70	1415	40.39	2266	32.61	1,019,145	42.18
<b>TOTAL</b>	<b>1,174,392</b>	<b>100.00</b>	<b>1,235,026</b>	<b>100.00</b>	<b>2,409,418</b>	<b>100.00</b>	<b>3446</b>	<b>100.00</b>	<b>3503</b>	<b>100.00</b>	<b>6949</b>	<b>100.00</b>	<b>2,416,367</b>	<b>100.00</b>
<b>Literacy Rate</b>	<b>99.71</b>		<b>99.72</b>		<b>99.71</b>		<b>0.29</b>		<b>0.28</b>		<b>0.29</b>		<b>100.00</b>	

Source: Philippine Statistics Authority

Of the 2,675,792 population aged 5 years old and over 528,710 (19.78%) completed elementary, 1,026,264 (38.40%) were able to reach or complete high school, 413,215 (15.46%) were college undergraduates while 494,623 (19.48%) were academic degree holders.

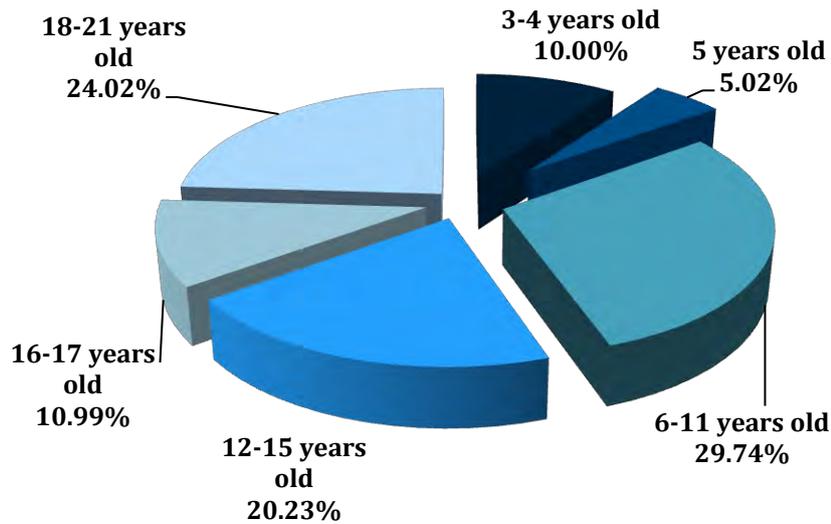
Those who took up vocational courses was 78,915 (2.95%) and 10,517 (0.39%) have master's degrees. Only 1.58% or 42,224 have no grade completed at all. (See Figure DS-13)



**Figure DS-13: Population Distribution by Educational Attainment 5 Years Old and Above, Quezon City: 2015**

School-age population (3-21 years old) in 2015 was 1,044,072 or 35.56% of the total population. In terms of sex distribution, 528,942 are males representing 50.66% and 515,130 are females comprising 49.34%.

The school-age population in the elementary level ages 6-11 years old (29.74%) is slightly higher than the tertiary level (24.02%) ages 18-21 yrs. old while those in the secondary level ages 12-15 years old represent 20.23% and the senior high school (16-17 years old) is 10.99%. Pre-school children who are 3-5 years old constitute 15.02%. Those in kindergarten aged 5 years old make up 5.02% while children aged 3-4 years old in day care constitute the 10%. (See Figure DS-14)

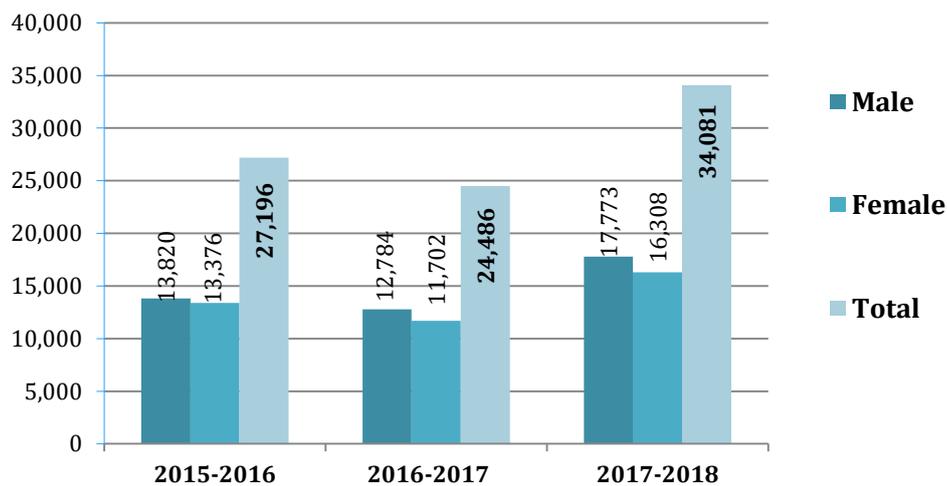


Source: Philippine Statistics Authority

Figure DS-14: Percent Distribution of School Age Population by School Level; Quezon City: SY 2015

### 3.3.2 Enrollment Performance Indicators

For School Year 2017-2018, the total enrollment in public kindergarten school is 34,081, an increase of 6,885 or 25.32% from the 27,196 enrollment in SY 2015-2016. There are more males (17,773 or 52.15%) enrolled than females (16,308 or 47.85%). The increasing enrollment trend in kindergarten was brought about by the enactment of Republic Act 10533 also known as the K-to-12 Program and RA 10157 or the Kindergarten Education Act of 2011 which compels all 5 year old children to undergo kindergarten education as the first stage of compulsory and mandatory formal education. (Refer to Figure DS-15)

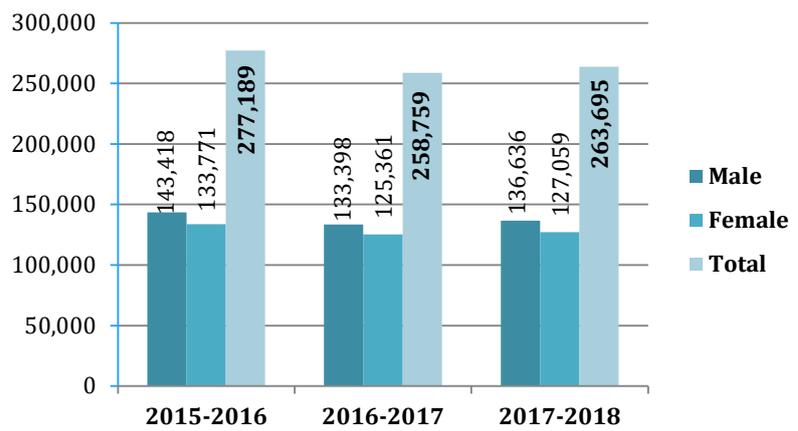


Source: Schools Division Office

Figure DS-15: Enrollment in Public Kindergarten Schools, Quezon City: SY 2015-2016 to SY 2017-2018

The total enrollment in public elementary and secondary schools as of SY 2017-2018 reached 420,765 a decrease of 0.19% from the 421,578 enrollment in SY 2015-2016.

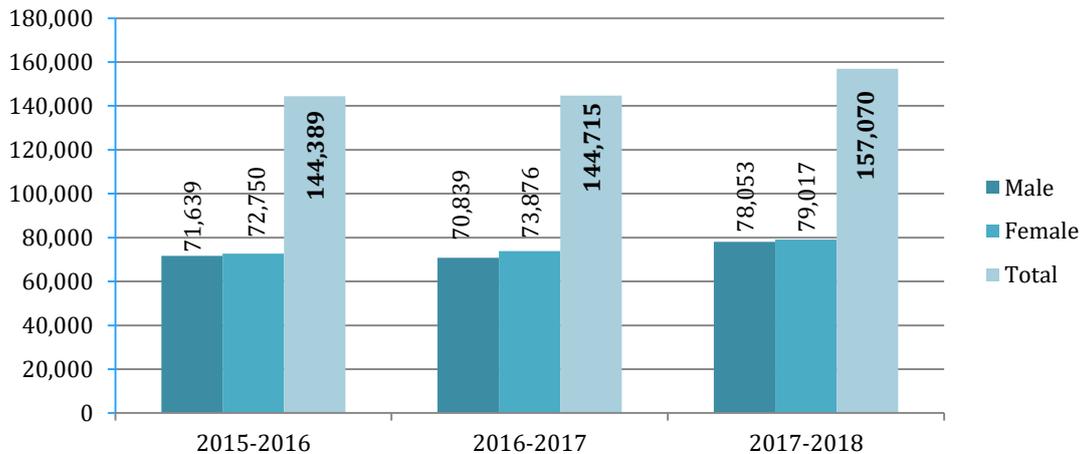
Of the total enrollment, 263,695 or 62.67% were enrollees in the elementary level. There were more male enrollees (136,636 or 51.82%) than females (127,059 or 48.18%). A decrease of 13,494 students from the 277,189 elementary students in SY 2015-2016 enrollment was noted. (See Figure DS-16)



Source: Schools Division Office

Figure DS-16: Enrollment in Public Elementary Schools, Quezon City: SY 2015-2016 to SY 2017-2018

On the other hand, enrollees at the high school level constitute 37.33% or 157,070 students of the total enrolled students in SY 2017-2018, representing an increase of 12,681 students from the 144,389 enrollees in SY 2015-2016. More females are enrolled in high school. (Refer to Figure DS-17)



Source: Schools Division Office

Figure DS-17: Enrollment in Public Secondary Schools, Quezon City: SY 2015-2016 to 2017-2018

The increasing trend of enrollment for secondary level in the last two (2) years may be attributed to the full implementation of Senior High School. Table DS-18 shows that out of the total 157,070 high school enrollees for SY 2017-2018, 92% or 144,302 are in Junior High School and the remaining 8% or 12,768 are in Senior High School.

**Table DS-18: Enrollment in Public Junior and Senior High School, Quezon City: SY 2016-2017 to SY 2017-2018**

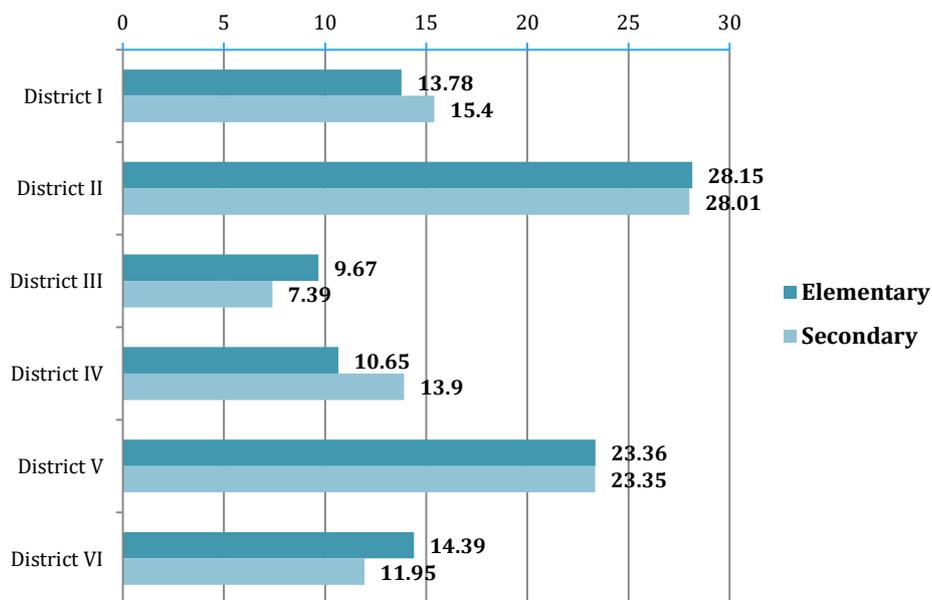
Grade Level	SY 2016-2017			SY 2017-2018		
	Male	Female	Total	Male	Female	Total
Junior High School	68,283	71,378	139,661	71,507	72,795	144,302
Senior High School	2,556	2,498	5,054	6,546	6,222	12,768

Source: Schools Division Office

Of the total enrollees for levels, 3,439 are special children (0.82%), a decrease of about 527 or 13.29% from only 3,966 enrolled in SY2015-2016. Special children are those with mental retardation, giftedness and talent, superior performance, learning disabilities, deafness, blindness and low vision, physical disabilities, health impairments and severe disabilities who experience difficulties in learning the basic educational curriculum. These children need a modified or functional curriculum or a differentiated special education curriculum to help them attain their full potential.

Majority of the enrolled special children are in the public elementary schools (3,005 or 87.38%) while 434 or 12.62% are in the public secondary schools. As of 2018, there are 45 (32 Non-SPED and 13 SPED Centers) public elementary schools and 12 (3 Non-SPED and 9 SPED Centers) secondary schools including National Orthopedic Hospital (NOH) offering Special Education Classes (SPED).

Enrollment at the district level shows that District II had the highest number of students (118,209 or 28.09%) for both public elementary and secondary schools which comprise 28.15% and 28.01% respectively of the total enrolment and the least is District III. (See Figure DS-18)



Source: Schools Division Office

**Figure DS-18: Percent Distribution of Elementary and Secondary Schools Enrollment by District, Quezon City: SY 2017-2018**

The combined Enrollment Participation rate (EPR) in public and private schools decreased from 95.43% in SY 2015-2016 to 94.70% in SY 2017-2018 in the elementary level while it increased from 85.90% in SY 2015-2016 to 94.17% in 2017-2018 in the secondary level.

In detail, the EPR for private in both elementary and secondary schools slightly decreased from 23.48 and 23.91 in SY 2015-2016 to 23.38 and 23.02 in SY 2017-2018, respectively. Likewise, the EPR in public elementary level also decreased from 71.94 in SY 2015-2016 to 71.32 in SY 2017-2018 while in secondary level it increased from 61.99 in SY 2015-2016 to 71.15 in SY 2017-2018. (Refer to Table DS-19)

**Table DS-19: Participation Rate in Public and Private Elementary and Secondary Schools, Quezon City: SY 2015-2016 to SY 2017-2018**

	Elementary			Secondary		
	SY 2015-2016	SY 2016-2017	SY 2017-2018	SY 2015-2016	SY 2016-2017	SY 2017-2018
<b>Public &amp; Private</b>	95.43	94.73	94.70	85.90	91.90	94.17
<b>Private</b>	23.48	71.32	23.38	23.91		23.02
<b>Public</b>	71.94	23.40	71.32	61.99		71.15

Source: Schools Division Office

At the pre-school level, out of the 162,284 estimated 2018 population ages 3-5years old, 80.68 % (130,933) are enrolled in public or private kindergarten schools and day care centers in SY 2017-2018. The pre-school enrollment participation rate of increased by 31.46% from 49.22 % EPR in SY 2015-2016.

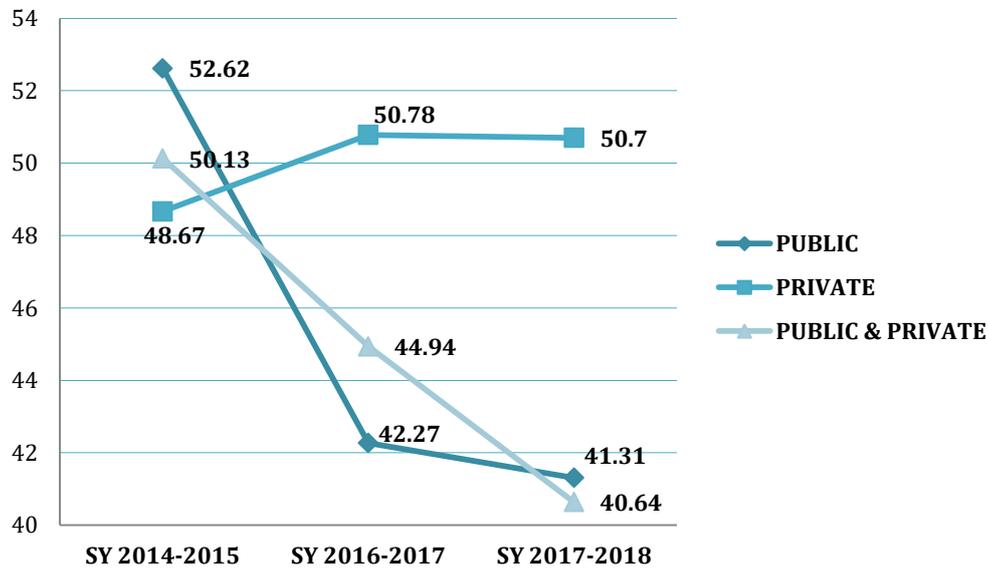
For children aged 3-4 years old, 78.17% (84,461) of the 2018 estimated 108,053 children are enrolled in private kindergarten schools, public day care centers/supervised neighborhood play and learning centers operated or managed by non-government organizations (NGOs) and people’s organizations (POs) in SY 2017-2018 while 46,472 children ages 5-year old and below were enrolled in public and private kindergarten schools.

### 3.3.3 Academic Performance Indicator

The National Achievement Test is an examination given to assess the competency of students’ knowledge and skills in five (5) major subjects: Mathematics, English, Science, Filipino and Hekasi for elementary and Mathematics, English, Science, Filipino and Araling Panlipunan for secondary. Administered by the Department of Education’s (DepEd) National Testing and Research Center, the test pave way for results intended to guide the efforts towards the improvement of the quality of education and to provide appropriate interventions for the students.

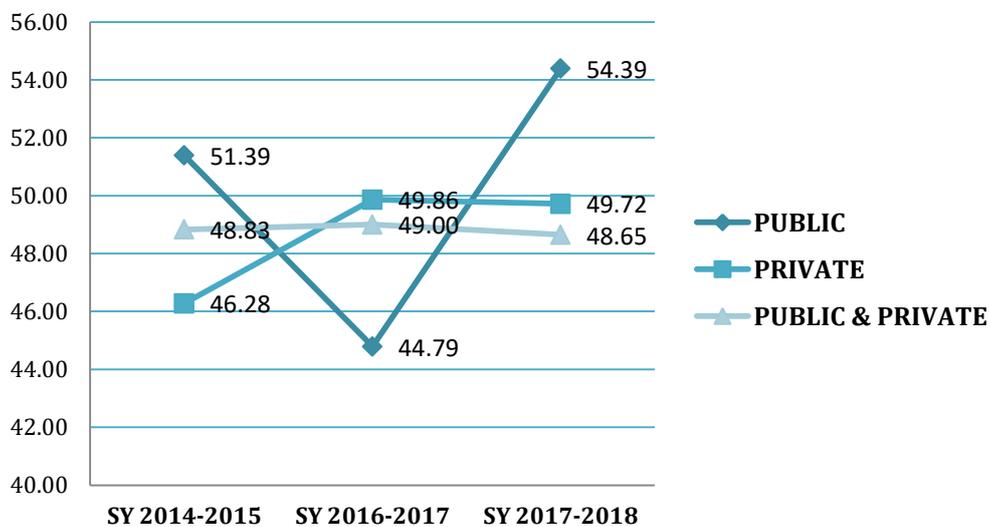
Achievement rates for both elementary and secondary levels in public and private schools in the city registered a decreasing trend. Figure DS-19A shows that the achievement rate of 50.13 at the elementary level in SY2014-2015 decreased to 44.94 in SY2016-2017 and decreased further to only 40.64 in SY2017-2018. In the secondary level, it was recorded at 48.83 in SY2014-2015. This presented a slight increase in SY2016-2017 at 49 and further down to 48.65 in SY 2017-2018.

It is to be observed however, that while there is a decreasing trend in the achievement rates for public and private schools, the performance in private elementary schools may be considered as better than the public schools. At the secondary level, achievement rates in public schools are higher than in the private schools except for SY 2016-2017. (See Figure DS-19A & B)



Source: Schools Division Office

Figure DS-19A: Achievement Rate in Public and Private Elementary Schools, Quezon City: SY 2014-2015 to SY 2017-2018



Source: Schools Division Office

Figure DS-19B: Achievement Rate in Public and Private Secondary Schools, Quezon City: SY 2014-2015 to SY 2017-2018

For the past 3 years, the city's academic performance among the 16 cities and 1 municipality in Metro Manila may be considered as low. As of SY2017-2018, the achievement test results showed that Quezon City ranked 14<sup>th</sup> in the elementary level and 6<sup>th</sup> in the secondary level. It also ranked 10<sup>th</sup> in the elementary level and 4<sup>th</sup> in the secondary in SY2016-2017 and ranked 15<sup>th</sup> and 10<sup>th</sup>, in SY2014-2015 respectively. The City of San Juan was noted to be ranked 1<sup>st</sup> in elementary and Makati City for secondary level per SY 2017-2018 achievement test results followed by Pasig City which is ranked 2<sup>nd</sup> for both levels. (Refer to Tables DS-20A and DS-20B)

**Table DS-20A: Academic Performance in Public and Private Elementary Schools, Quezon City & Other Metro Manila Cities/Municipality: SY 2014-2015 to SY 2017-2018**

CITY / MUNICIPALITY	ELEMENTARY					
	SY 2014-2015		SY 2016-2017		SY 2017-2018	
	RANK	RATE	RANK	RATE	RANK	RATE
Caloocan City	9	60.74	15	42.74	16	38.18
Las Piñas City	5	64.06	7	46.26	12	41.35
Makati City	2	67.60	2	52.27	3	47.91
Malabon City	3	64.79	14	43.11	11	42.83
Mandaluyong City	8	60.88	4	46.50	9	43.91
Manila	10	59.52	6	46.32	8	45.98
Marikina City	14	52.42	3	48.83	6	47.35
Muntinlupa City	13	54.79	11	44.44	10	43.01
Navotas City	6	63.37	16	40.57	15	39.26
Parañaque City	4	64.52	13	43.64	4	47.70
Pasay City	7	62.79	8	45.63	5	47.52
Pasig City	16	49.86	9	45.21	2	49.83
<b>Quezon City</b>	<b>15</b>	<b>50.13</b>	<b>10</b>	<b>44.94</b>	<b>14</b>	<b>40.64</b>
San Juan City	11	59.51	1	52.68	1	40.53
Taguig / Pateros	1	68.32	5	46.46	7	47.15
Valenzuela City	12	56.59	12	43.83	13	41.05

Source: Schools Division Office

**Table DS-20B: Academic Performance in Public and Private Secondary Schools, Quezon City & Other Metro Manila Cities/Municipality: SY 2014-2015 to SY 2017-2018**

CITY / MUNICIPALITY	SECONDARY					
	SY 2014-2015		SY 2016-2017		SY 2017-2018	
	RANK	RATE	RANK	RATE	RANK	RATE
Caloocan City	16	44.53	12	45.73	8	47.93
Las Piñas City	11	48.82	6	47.60	12	45.59
Makati City	2	52.90	3	51.26	1	55.33
Malabon City	13	48.38	15	43.60	4	49.28
Mandaluyong City	12	48.55	5	48.04	7	48.37
Manila	4	51.37	2	51.26	5	48.87
Marikina City	5	49.75	10	46.75	3	49.38
Muntinlupa City	8	49.06	8	46.92	14	44.69
Navotas City	14	46.84	16	42.63	13	45.21
Parañaque City	9	48.86	13	45.71	11	46.73
Pasay City	6	49.56	9	46.81	15	44.53
Pasig City	7	49.39	7	47.09	2	51.12
<b>Quezon City</b>	<b>10</b>	<b>48.83</b>	<b>4</b>	<b>49.00</b>	<b>6</b>	<b>48.65</b>
San Juan City	3	51.82	1	53.64	10	46.75
Taguig / Pateros	1	57.11	11	46.49	9	47.48
Valenzuela City	15	46.57	14	44.99	16	43.32

Source: Schools Division Office

Another academic performance indicator is cohort survival rate or the percentage of those who in the beginning grade reached the final grade of the required number of years for the elementary and high school level.

The cohort survival rate for public and private elementary and secondary levels have increased from 73.11% and 80.98% respectively in SY 2016-2017 to 100% and 93.67% respectively in SY 2017-2018. In public elementary and secondary schools, cohort survival rates are lowest at 94.53% and 85.66% than in private schools with 100% rating. (Refer to Table DS-21).

Drop-out rate which is another performance indicator is defined as the proportion of pupils who left school during a school year. For SY 2017-2018, the combined drop-out rate in public and private elementary and secondary schools both decreased from 1.21% and 1.83% in school SY 2016-2017 to 0.88 % and 1.32% in SY 2017-2018. This means that for every 100 elementary students enrolled, 1 eventually leaves school while for every 100 high school students enrolled, 2 will most likely leave school. Some of the possible causes of dropping out are financial problems, lack of personal interest, illness/disability, and inability to cope with school work, teenage pregnancy, and transfer of residence or employment.

The drop-out rate in both public elementary and secondary schools decreased from 1.33% and 1.94% in SY 2016-2017 to 1.08% and 1.54% in SY 2017-2018. The drop-out rate in public elementary and secondary levels however, was noted to be higher compared to private schools (See Table DS-21).

**Table DS-21 Cohort Survival and Drop-Out Rate in Public and Private Elementary and Secondary Schools, Quezon City: SY 2016-2017 and SY 2017-2018**

Indicator	Elementary						Secondary					
	SY 2016-2017			SY 2017-2018			SY 2016-2017			SY 2017-2018		
	Public	Private	Public & Private									
<b>Cohort Survival Rate</b>	91.26	35.13	73.11	94.53	100	100	88.72	61.97	80.98	85.66	100	93.67
<b>Drop-Out Rate</b>	1.33	0.77	1.21	1.08	0.30	0.88	1.94	1.49	1.83	1.54	0.64	1.32

Source: Schools Division Office

### 3.3.4 Classroom-Student Ratio

The over-all classroom-student ratio based on 2 shifts per standard classroom-student ratio of 1:45 is 1:32 in public elementary schools and 1:31 in secondary schools for both junior high school (JHS) and senior high school (SHS).

However, the present classroom-student ratio varies for each district and for each school level. Figures indicate that for the elementary and secondary school levels, there is deficiency in the existing number of classrooms. This inadequacy exists specifically in District II where the classroom-student ratio is computed to be 1:48 for elementary and 1:56 in the secondary level. This means that a single classroom accommodates as many as 56 students in each session compared with the ideal ratio of 1:45. The classroom deficiency is made even more significant considering that both public elementary and high schools hold two shifts or sessions each day. Fortunately, the situation is better in other districts such as in District III where the ratio is 1:22, District IV with a ratio of 1:27, District I having a ratio of 1:24, District V 1:33 and District VI 1:33. This is further substantiated with the observation that there are excess classrooms in the other districts. The over-all actual or existing number of classrooms of 6,656 (4,147 in the elementary

and 2,509 in the secondary) is more than the required number of classrooms of only 4,678 (2,931 in the elementary and 1,747 in secondary schools) except in District II. To address the deficiency in District II, the city needs to construct about 144 more classrooms (49 for elementary and 95 for secondary) to meet the present demand. (See Table DS-22)

**Table DS-22: Elementary and Secondary School (JHS & SHS) Classroom-Student Ratio by District, QC: SY 2017-2018**

Distt	No. of School	SY 2017-2018	Elementary				Secondary (JHS & SHS)					
			No. of Classrooms				No. of Schools	SY 2017-2018	No. of Classrooms			
			Actual	Required	Needs	Class-Room-Student Ratio			Actual	Required	Needs	Classroom-Student Ratio
I	22	36,338	747	404	0	1:24	14 (3)	24,195	554	269	0	1:22
II	13	74,221	776	825	49	1:48	6	43,988	394	489	95	1:56
III	17	25,507	592	283	0	1:22	8 (1)	11,601	287	129	0	1:20
IV	13	28,074	515	312	0	1:27	14 (4)	21,835	605	243	0	1:18
V	18	61,608	937	685	0	1:33	10 (3)	36,681	450	408	0	1:41
VI	12	37,947	580	422	0	1:33	6 (1)	18,770	219	209	0	1:43
<b>TOTAL</b>	<b>95</b>	<b>263,695</b>	<b>4,147</b>	<b>2,931</b>	<b>49</b>	<b>1:32</b>	<b>58 (12 SHS)</b>	<b>157,070</b>	<b>2,509</b>	<b>1,747</b>	<b>95</b>	<b>1:31</b>

Source: Schools Division Office

### 3.3.5 Teacher-Student Ratio

Based on the total enrollment and the actual number of teachers, the over-all teacher-student ratio is 1:32 in public elementary schools and 1:25 in public secondary schools. This is within the standard teacher-student ratio of 1:45 in all school districts.

**Table DS-23: Elementary and Secondary School Teacher-Student Ratio by District, Quezon City: SY 2017-2018**

District	No. of Schools	SY 2017-2018	Elementary			Secondary				
			No. of Teachers			No. of Schools	SY 2017-2018	No. of Teachers		
			Actual	Needs	Teacher-Student Ratio			Actual	Needs	Teacher-Student Ratio
I	22	36,338	1,077	0	1:34	14(3)	24,195	967	0	1:25
II	13	74,221	2,098	0	1:35	6	43,988	1,706	0	1:26
III	17	25,507	1456	0	1:18	8(1)	11,601	521	0	1:22
IV	13	28,074	816	0	1:34	14 (4)	21,835	952	0	1:23
V	18	61,608	1,843	0	1:33	10(3)	36,681	1,329	0	1:28
VI	12	37,947	1,066	0	1:36	6 (1)	18,770	738	0	1:25
<b>TOTAL</b>	<b>95</b>	<b>263,695</b>	<b>8,356</b>	<b>0</b>	<b>1:32</b>	<b>58 (12 SHS)</b>	<b>157,070</b>	<b>6,213</b>	<b>0</b>	<b>1:25</b>

Source: Schools Division Office

### 3.3.6 Textbook-Student Ratio

Data from the City Schools Division Office (SDO) show that the textbook-student ratio for both elementary and secondary levels is 1:1 which means that each student has one (1) textbook per basic subject. Of the total 1,767,511 textbooks provided by the national government in 2018,

only 61.94% (1,094,835) are for the elementary level, 33.82% (597,686) textbooks are for the junior high school and the remaining 4.24% or 74,990 are for senior high school.

### 3.3.7 Educational Programs

Educational programs for both public and private schools in elementary and secondary levels are in accordance with the curricula prescribed by Republic Act 10533 or the Enhanced Basic Education Act of 2013, known as the K-to-12 Program which covers kindergarten and 12 years of basic education consisting of six (6) years of primary education, four (4) years of junior high school and two (2) years of senior high school.

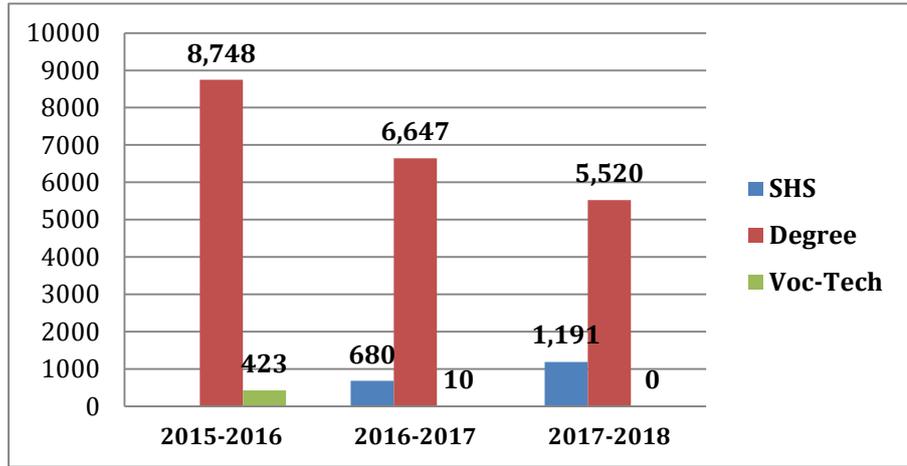
Senior High School is a specialized upper-secondary education composed of Core Subjects and Track Subjects. Both categories have 15 and 16 subjects respectively. Each track covers different strands or specialization such as: (1) ACADEMIC TRACK with Accountancy, Business and Management (ABM), Science, Technology, Engineering and Mathematics (STEM), Humanities, Education, Social Sciences (HUMSS/HESS) and Liberal Arts; (2) SPORTS TRACK with Safety and First Aid; (3) ARTS AND DESIGN TRACK with Arts Assessment and Guidance; and, (5) TECH-VOC TRACK with TESDA Training Regulations-Based Specialization.

Services like the Alternative Learning System (ALS) are offered to the people who have not finished the elementary or secondary education. ALS is an alternative, parallel learning system that provides a particular option to the existing formal education when one does not have or cannot access formal education in school. It includes both non-formal and informal sources of knowledge and skills. For SY 2017-2018, the city recorded a total of 13,811 ALS enrollees consisting of or household or domestic workers (*Kasambahays*) and out-of-school youths and adults. Majority are male (7,928 or 57.40%) and 5,883 or 42.60% are female ALS enrollees. There are 157 ALS Learning Centers (ALCs), 79 of which are public school-based, 37 are barangay-based, 35 are run by either the local government unit (LGU) or non-government organizations (NGOs), and 6 are extension centers.

Madrasah education program to Muslim students is also being offered in seventeen (17) public schools, of which 15 are elementary schools and 2 are secondary schools. Conducted every Saturday and Sunday, the program offers basic education in Islamic values and Arabic language. There are about 1,542 enrolled students and 42 Muslim teachers or “Azatids”. It aims to harmonize the traditional Philippine education curriculum with the Madrasah system thereby ensuring educational parity across regions and cultures.

Further educational support is provided by the Quezon City Polytechnic University (QCPU). It was established in 1994 under City Council Ordinance No. SP-171, S-1994 as Skills Training Center and this was converted into the Quezon City Polytechnic University through Ordinance No. SP-544, Series of 1997 and later on provided with the University Charter by SP-1030, Series of 2001. The institution was created to facilitate training of skilled workers in response to the manpower requirement by industry and business establishments within the city. The organization of the Polytechnic as a local government educational institution included the old skills and training center.

The QCPU Main Campus is at Bgy. San Bartolome. It offers Bachelor of Science and/or baccalaureate courses or four-year courses such as General Education, BS Information Technology, BS Entrepreneurship, BS Industrial Engineering and BS Electronics Engineering and

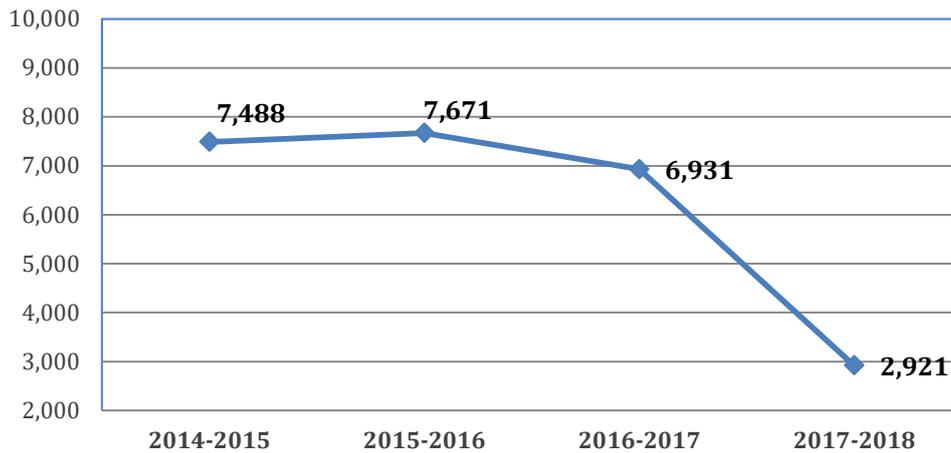


Source: Quezon City Polytechnic University

Figure DS-20: Enrollment in Quezon City Polytechnic University; Quezon City: SY 2015-2016 to SY 2017-2018

Senior High School. The university has satellite campuses in Bgy. Sto. Cristo within San Francisco High School compound which offers degree courses only and in Bgy. Batasan Hills along IBP Road that offers degree courses as well as Senior High School in SY 2016-2017 with 680 students. University enrollment trend is decreasing from 8,748 in SY 2015-2016 to 5,520 students in SY 2017-2018 in baccalaureate courses or a decrease of 36.90% enrollees and from 423 to 0 students under vocational and technical courses. The total number of graduates for SY 2017-2018 was 2,455, of which 713 are BS Entrepreneurial Management graduates, 375 for BS Industrial Engineering, 52 for BS Electronics Engineering, 729 for BS Information Technology and 586 for Senior High School graduates. (See Figure DS-20)

In addition, the city government extends scholarship assistance to the city's under-privileged college students or those belonging to low income/indigent families. With the implementation of the Free Tuition Fee Law in 2018 giving full tuition subsidy for students in State Universities and Colleges (SUCs), local universities and colleges and state-run technical-vocational schools, the city provides stipend of Php1,500.00 for economic/regular scholars including HB Centrex scholars and SK elected officials as well. First and second honor students in public schools are also granted scholarship assistance at Php40,000.00 for tuition fees and Php10,000.00 stipend while the rest of top 10 honor students are given Php15,000.00 in tuition fees and Php 5,000.00 stipend per semester charged under the General Fund and Legislative Fund from selected Councilors. Master's and post-graduate scholarship assistance are granted to qualified QC Hall employees with Php20,000.00 tuition fees and Php15,000.00 stipend per semester. The beneficiaries of this category of scholars may enroll in any university of their choice. A total of 2,921 benefited from the city's scholarship assistance in SY 2017-2018, a decrease of 60.99% from 7,488 scholars in SY 2014-2015. This is mainly because of the implementation of the K to 12 program of DepEd which started in SY 2016-2017.



Source: Scholarship and Youth Development Program (SYDP)

**Figure DS-21: Number of Quezon City Government Scholars, Quezon City: SY 2014-2015 to SY 2017-2018**

### 3.3.8 Educational Facilities

The number of public schools increased from 141 in 2015 to 153 in 2018. Of these, 58 are public secondary schools which offer junior and senior high schools while 95 are elementary schools. The increase of number of public schools is due to the establishment of stand-alone senior high schools. All public elementary schools are offering pre-school classes. The city also has (3) public schools offering vocational and technical courses: QCPU Main at San Bartolome, QCPU Batasan satellite campus, and HB Negotech at Barangay Tatalon

About 638 private schools offer different levels of education such as preparatory, elementary, and secondary or a combination of two or more levels. There are also 109 colleges and universities and, the more prominent ones found in the city include Miriam College, Ateneo de Manila and the state-run University of the Philippines. The city has nineteen (19) public libraries; eighteen (18) branches situated in the six (6) districts of the city, and (1) one main library which is “a state of the art library” located at the City Hall Compound.

### 3.3.9 Special Education Fund (SEF) Utilization

The Special Education Fund (SEF) is from the proceeds of the additional one percent tax on real property tax which is automatically released to the Local School Boards.

Records gathered from the Local School Board and City Budget Department reveal that for the last four (4) years, the city’s annual approved amount under SEF is more than Php1 billion. The highest allocation was in 2017 with Php1.7 billion. The SEF average utilization rate for the four-year period is 71.14% (See Table DS-24). Joint Memorandum Circular No. 1; Series of 1998 issued by the DepEd, DBM and DILG dated April 14, 1998 prescribed the rules and regulation to be observed by the Local School Boards in the utilization of this fund. According to the memorandum circular, among the priority expenses chargeable against SEF include operation and maintenance of public schools, including organization of extension classes, non-formal, remedial and summer classes, as well as payment of allowances of teachers granted by local government unit, subject to existing budgeting rules and regulations. The SEF can also fund construction and repairs of school buildings, facilities and equipment including the acquisition,

titling and improvement of school sites; educational research; acquisition/procurement of books, instructional materials, periodicals and equipment including information technology resources and expenses for school sports activities at the national, regional, division, district and barangay levels; and, other DepEd related activities including co-curricular activities.

**Table DS-24: Approved and Actual Utilization of Special Education Fund; Quezon City: 2015-2018**

Calendar Year	Approved Amount (P)	Actual Expenditure (P)	Utilization Rate
2015	1,216,000,00.00	800,299,194.51	65.81
2016	1,430,000,000.00	1,136,095,770.68	79.45
2017	1,700,000,000.00	867,652,387.26	51.04
2018	1,520,000,000.00	1,341,428,749.90	88.25

*Source: Local School Board Secretariat; City Budget Department*

### 3.4 SOCIAL WELFARE SERVICES

Social welfare services are provided by the City to its residents through the Social Services and Development Department (SSDD). Beneficiaries are mostly the city's indigent families which include the children, youth, elderly, disabled/special groups, mendicants, women and distressed or displaced groups. The city extends the following welfare programs and services:

*Community Welfare Program* is a comprehensive social welfare service to uplift the living conditions of the distressed and disadvantaged families and individuals to enable them to become self-reliant, improve quality of life and actively participate in national development.

*Welfare and Relief Program* is a program for the city's constituents who are in crisis situation brought about by illness, loss of jobs, victim of natural and man-made calamities, economic problems, among others.

*Residential and Rehabilitation Program* provides custodial care and temporary shelter to the needy and disadvantaged clients. These facilities include Molave Youth Home (MYH), a detention home for children in conflict with the law (CICL), the Halfway Home or *Bahay Aruga* for released CICL and other children in need of special protection (CNSP) or those abused, neglected, abandoned and victims of trafficking and the Reception and Action Center (RAC) that caters to the needy and disadvantaged clients such as street children, abandoned youth and adults, neglected, abused and victims of exploitation including mendicants, vagrants and stranded individuals.

*Vocational and Skills Training Program* is an integrated package of assistance that provides livelihood opportunities, skills trainings, and other pro-poor projects to target beneficiaries for them to sustain the basic needs.

In 2018, the SSDD extended welfare services to 253,896 clients either individually, group or as families, an increase of 76,342 clients or 43% from 177,554 served in 2015. The recorded figure on the number of actual beneficiaries in 2018 however, represents more (39.33%) of the 182,215 target clientele for the year.

Majority of the total clients served for both 2015 and 2018 have availed of the Community Welfare Program. The data in 2018 indicate that the number of clients served under the Community Welfare Program constitutes 77.67% (197,212) of the total clients served, followed by Welfare and Relief Rehabilitation Program with 18.75% (47,611). Vocational and Skills Training Program had 2.78% (7,045) while Residential and Rehabilitation Program served 0.80% (2,028). (See Table DS-25)

**Table DS-25 : Number of Clients Served by Type of Welfare Services, Quezon City: 2015 & 2018**

Programs/Projects	2015			2018		
	Male	Female	Total	Male	Female	Total
<b>Community Welfare Program</b>						
Child Welfare Program	11,864	12,109	23,973	12,149	12,072	24,221
Youth Welfare Program	4,585	3,177	7,762	3,693	3,127	6,820
Family Welfare Program	29,882	30,907	60,789	65,357	86,466	151,823
Women Welfare Program	-	4,837	4,837	-	4,364	4,364
Disabled Welfare Program	5,633	4,633	10,266	1,521	1,391	2,912
Elderly Welfare Program	409	5,914	6,323	1,077	5,995	7,072
<b>Sub-Total</b>	<b>52,373</b>	<b>61,577</b>	<b>113,950</b>	<b>83,797</b>	<b>113,415</b>	<b>197,212</b>
<b>Welfare and Relief Program</b>						
Financial Assistance Program	6,364	6,967	13,331	2,237	2,053	4,290
Disaster Relief Program	11,170	11,159	22,329	10,192	10,027	20,219
Food for Work Program	91	200	291	75	126	201
Referrals	2,070	3,655	5,725	11,156	10,388	21,544
Special Cases	46	53	99	-	-	-
Volunteer and Auxiliary Program	329	718	1,047	395	865	1,260
Other Collaborative Project	4,368	5,283	9,651	31	66	97
<b>Sub-Total</b>	<b>24,438</b>	<b>28,035</b>	<b>52,473</b>	<b>24,086</b>	<b>23,525</b>	<b>47,611</b>
<b>Residential and Rehabilitation Program</b>						
Molave Youth Home	1,137	178	1,315	1,322	134	1,456
Reception & Action Center	336	228	564	398	174	572
<b>Sub-Total</b>	<b>1,473</b>	<b>406</b>	<b>1,879</b>	<b>1,720</b>	<b>308</b>	<b>2,028</b>
<b>Vocational and Skills Training Program</b>						
Skills Training Program	454	6,364	6,818	879	3,975	4,854
Small Income Generating Assistance	29	308	337	172	1,062	1,234
Other Special Projects	335	1,762	2,097	67	890	957
<b>Sub-Total</b>	<b>818</b>	<b>8,434</b>	<b>9,252</b>	<b>1,118</b>	<b>5,927</b>	<b>7,045</b>
<b>Grand Total</b>	<b>79,102</b>	<b>98,452</b>	<b>177,554</b>	<b>110,721</b>	<b>143,175</b>	<b>253,896</b>

Source: Social Services Development Department (SSDD)

### 3.4.1 Early Childhood Care and Development (ECCD) Services

Under the Child Welfare Program of SSDD are two (2) major projects: Supplemental Feeding and Day Care Services. Pre-school children aged 3-5 years old, enrolled in day care centers (DCCs), supervised neighborhood play (SNP), and public and private pre-schools. For SY 2017-2018 a total of 130,933 pre-school children were enrolled representing 80.68% of the estimated 2018 pre-school age population of 162,284. This is higher compared to 49.22% EPR in SY 2015-2016.

Of the 130,933 pre-school enrollees, 84,461 are day care children aged 3-4 years old enrolled in various facilities. The figure represents 78.17% of the 108,053 estimated day care children in 2018 which has increased tremendously over the 53,041 enrolled children in 2015. The significant increase may be attributed to the intensified tracking made by SSDD which considers not only enrollees in the city's DCCs and SNPs but also those from existing learning centers operated or managed by NGOs and POs. These figures were not available in the previous years. It appears that there are still 23,592 unserved 3-4 year-old children for day care services and if computed based on the ideal day care center-pupil ratio of 1:25 requirement, a total of 2,161 DCCs and 1,351 DCCs at 1:40 in two (2) shifts are needed.

Enrollees in the city's day care centers alone gradually increased through the years from 92,595 in SY 2015-2016 to 130,933 in SY 2017-2018. The gradual increase in DCC enrollees can be attributed to the SSDD's policy of limiting enrollees to a maximum of 40 pupils per class in order for the day care teachers to individually supervise the children with the help of day care parents. The city is adopting the day care center classroom-pupil ratio of 1:40 in two (2) shifts/session per day, which is below the standard ratio of 1:25. (See Table DS-26)

### 3.4.2 Children In Need of Special Protection (CNSP)

In 2018, the number of Children in Need of Special Protection (CNSP) served totaled to 201 (68 males and 133 females). Services rendered are in the form of Rescue/Temporary Shelter, Protective Services/After Care and Follow ups or Monitoring.

#### Cases of Child Abuse

The number victims of abused children in 2018 were reported at 133, a decrease of 163 cases from the 296 figure in 2015. There are more females (96) abused children than males (37) in both years. Most of the reported cases in 2018 were child custody followed by sexually abused and neglected children. The improved level of awareness of the populace on the consequences of inflicting abuse on children as provided for under Republic Acts 7610 and 9262 otherwise known as Anti-Child Abuse Act and Violence against Women and Children Act encourages people to report, thus contributes in the increase and decrease of reported cases. (See Table DS-27)

In 2018, there were 68 children (31 males and 37 females) assessed and recommended for issuance of certificate for legal adoption by the Department of Social Welfare and Development (DSWD).

Table DS-26: Pre-School Enrolment by Sex, by District, QC SY-2015-2016 & SY 2017-2018

Daycare Enrollees (3-4 yrs old)	SY 2015-2016			SY 2017-2018		
	Male	Female	Total	Male	Female	Total
<b>City DCCS/SNPs</b>						
I	1,879	1,919	3,790	1,921	1,899	3,820
II	2,183	2,247	4,430	2,278	2,262	4,540
III	1,854	1,856	3,710	1,866	1,874	3,740
IV	1,834	1,871	3,705	1,756	1,739	3,495
V	2,454	2,456	4,910	2,620	2,560	5,180
VI	1,516	1,554	3,070	1,649	1,611	3,260
<b>Sub-Total</b>	<b>11,720</b>	<b>11,895</b>	<b>23,615</b>	<b>12,090</b>	<b>11,945</b>	<b>24,035</b>
Private pre-schools			5,236			
NGOs/POs	-	-	24,190	-	-	60,426
<b>Total</b>			<b>53,041</b>			<b>84,461</b>
<b>KINDER ENROLLEES (below 5 years old)</b>						
<b>Public elementary schools</b>						
I	2,127	2,027	4,154	2,583	2,369	4,952
II	3,429	3,384	6,813	4,781	4,338	9,119
III	1,400	1,405	2,805	1,773	1,660	3,433
IV	1,491	1,435	2,926	1,923	1,774	3,697
V	3,293	3,166	6,459	4,079	3,740	7,819
VI	2,080	1,959	4,039	2,634	2,427	5,061
<b>Sub-Total</b>	<b>13,820</b>	<b>13,376</b>	<b>27,196</b>	<b>17,773</b>	<b>16,308</b>	<b>34,081</b>
<b>Private pre-schools</b>						
I	941	1,150	2,091	-	-	-
II	3,029	3,060	6,089	-	-	-
III	841	878	1,719	-	-	-
IV	928	1,079	2,007	-	-	-
V	135	108	243	-	-	-
VI	100	109	209	-	-	-
<b>Sub-Total</b>	<b>5,974</b>	<b>6,384</b>	<b>12,358</b>			
<b>Total</b>	<b>19,794</b>	<b>19,760</b>	<b>39,551</b>			<b>12,391</b>
<b>OVER- ALL TOTAL</b>	<b>31,514</b>	<b>31,136</b>	<b>92,595</b>			<b>130,933</b>

Source: Social Services Development Department, Division of City Schools

**Table DS-27: Reported Cases of Child Abuse by Sex, QC: 2015 & 2018**

Cases	2015			2018		
	Male	Female	Total	Male	Female	Total
Sexual Abuse	29	70	99	4	11	15
Physical Abuse	33	29	62	5	4	9
Neglected	40	41	81	7	4	11
Abandoned	10	3	13	1	1	2
Verbal Abuse	15	6	21	0	1	1
Psychological	14	6	20	1	4	5
Child Trafficking	-	-	-	0	2	2
Institutionalization				1	2	3
Child Custody				18	67	85
<b>TOTAL</b>	<b>141</b>	<b>155</b>	<b>296</b>	<b>37</b>	<b>96</b>	<b>133</b>

*Source: Social Services Development Department*

### **Unregistered and Late-Registered Births**

The United Nations Convention on the Rights of the Child, signed and ratified by the Philippines, recognizes that all children have the right to Survival, Development, Protection, and Participation. Every child has the inherent right to life and to the needs that are most basic to existence, the right to a name and nationality. Among the child-friendly commitments of every barangay is that all children should be registered at birth.

To support this, City Council Ordinance No. SP-1610, S-2005 was passed and approved which *“Provides exemption from payment of registration fees by parents or guardians whose gross income does not exceed Sixty Thousand pesos (P60,000.00) annually in the registration of live birth of a child with the City Civil Registry recognizing the right of the child to bear a name and status for a lifetime and providing further penalties for the violation thereof.”* The massive campaign on *“Operation Birth Right”* of the City Civil Registry Department (CCRD) has encouraged every family of the barangay to register for free the newly-born child and unregistered children ages 31 days above and below 18 years old.

For 2018, there were 68,096 births registered, of which 83.50% (56,857) were registered on time and 16.50% (11,239) were births which were registered late. Based on CCRD records, late registrants comprised 96.90% of the 11,598 applicants for delayed birth registration and 359 or 3.10% were unregistered births. Some of the reasons for unregistered births include the inability to comply with the requirements and limited resources of parents to pursue birth registration of their children. Other reasons for unregistered births is the lack of awareness on the importance of registering the child’s birth not only on time but a must, to establish identity of the child and avoid the hassle of securing birth certificates when the child starts schooling.

### **Cases of Child Labor**

Child labor refers to any work or economic activity performed by a child that subjects her/his to any form of exploitation or is harmful to her/his health and safety or physical, mental or psychosocial development. Aged below 17 years old, these children often worked to help support their families, are deprived of their childhood and are forced to forgo education. In accordance with and in support of Republic Act No. 9231, or the Elimination of the Worst Forms of Child Labor, the city government has passed Ordinance No.SP-784 which penalizes the owner or operators of any business and/or entertainment establishment in Quezon City for hiring or employing children and minors. Likewise, Ordinance No.SP-1594, S-2005 prohibits the

employment of minors below fifteen (15) years of age in public and private undertakings within the territorial jurisdiction of Quezon City.

Results of a 2014 survey conducted by the Department of Labor and Employment (DOLE) in the National Capital Region (NCR) reflect that there were 1,075 child laborers exclusive those at risk victims or in hazardous workplace from the city's 26 barangays. The PIC reclassified these child laborers into two types such as formal and informal employment. Formal employment includes; the *batang kasambahay*, factory worker, gasoline boy, carwash boy and construction workers while those in the Informal employment are the vendors, scavengers, parking boys, barkers, *kargador* and freelance sex workers.

Out of the 1,075 reported baseline data of DOLE on child labor cases, there were still 222 child laborers who were not provided with intervention programs in 2017. Thus, the city government through the QC Program Implementation Committee (QCPIC) on Child Laborer has conducted various programs and activities to benefit the remaining child laborers. In 2018, there were ninety-one (91) child laborers who participated in the Project Angel Tree and they were provided with bags, toys and foods. Forty (40) child laborers joined the *Lakbay-Aral* at the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) Weather Forecast, Planetarium, Philippine Institute of Volcanology and Seismology (PHIVOLCS), and Presidential Car Museum while eighty-five (85) children were given school supplies and groceries. The remaining six (6) children were not provided with necessary interventions since their families were relocated to other cities.

### **3.4.3 Youth Welfare Services**

In 2018, there were 6,820 youths who availed of the services under Youth Welfare Program. The figure is lower compared to 7,762 in 2015. The decrease maybe attributed due to the city's constant advocacy campaign on the existing national and local laws pertaining to children. Comprising of 3,693 males and 3,127 females, these individuals have ages that range from 6-17 years old.

Under RA 9344, otherwise known as the Juvenile Justice and Welfare Act, youth offenders below 15 years of age are released to the custody of parents, guardians or a responsible welfare agency and are given proper interventions. The Molave Youth Home (MYH) serves as a residential and rehabilitation center or a halfway house for children in conflict with the law (CICL). These include male and female CICL, aged 15 to 17 years old and who committed crimes and were arrested within the vicinity of QC regardless of their residence. Said facility aims to provide temporary secure custody and care for youth offenders while they are undergoing trial.

For 2018, there were 616 reported cases of youth offenders under RA 9344, a decrease of more than half or 53.71% from 1,147 cases in 2015. Programs and services rendered to CICL clients cover social/treatment, homelife, medical, values and spiritual formation, vocational/skills training, non-formal education and various recreational and cultural services.

The SSDD also serves thirty-one (31) youth with behavioral problems; 813 street children and 413 abused youths. Between 2015 and 2018, the number of young individuals with behavior decreased, while there was an increase in the number of street children and abused youths served by the city increased. (See Table DS-28)

Table DS-28: Number of Youth (6-17 Years Old) Served by Type, QC: 2015 and 2018

Category	2015				2018			
	Male	Female	Total	%	Male	Female	Total	%
Street Children	192	70	262	9.19	504	309	813	33.21
Out-of-School Youth	633	611	1,244	43.63	383	192	575	23.49
Youth Offenders under RA 9344/CICL	1,008	139	1,147	40.23	562	54	616	25.16
Youths with Behavioral Problems	49	24	73	2.56	22	9	31	1.27
Abused Youth	74	51	125	4.39	230	183	413	16.87
<b>TOTAL</b>	<b>1,956</b>	<b>895</b>	<b>2,851</b>	<b>100.00</b>	<b>1,701</b>	<b>747</b>	<b>2,448</b>	<b>100.00</b>

Source: Social Services Development Department

### 3.4.4 Women in Especially Difficult Circumstances (WEDC)

A total of 4,364 women were served under the Women Welfare Program in the form of rescue, provision of temporary shelter, case management and capability-building services. A total of 3,564 women were given capability services and 500 of these were reported WEDC.

This number of reported WEDC in 2018, showed significant decrease of 135 cases from the 635 reported cases in 2015. The decrease may also be partially brought about by an intensive information dissemination of RA 9262 or the Violence against Women and Children Act (VAWC), RA 9208 or the Anti-Trafficking in Persons Act, RA 7877 of the Anti-Sexual Harassment Act, and other measures. The number of WEDC cases indicates that cases of violence against women have the highest number with 290 (58%), followed by 110 victims of prostitution (22%), 75 victims of trafficking (15%) and 25 abused *kasambahays* (5%). (See Table DS-29)

Table DS-29: Reported Number and Incidence of Women in Especially Difficult Circumstances, QC: 2015 and 2018

WEDC Cases	2015		2018	
	Number	Percent	Number	Percent
1. VAWC			290	58.00
• Physically / Verbally Abused	260	41.00	-	-
• Sexually Abused	17	2.67	-	-
• Emotionally & Psychologically Abused	143	22.51	-	-
• Economically Abused	94	14.80	-	-
2. Victims of Prostitution	50	7.87	110	22.00
3. Victims of Trafficking	60	9.44	75	15.00
4. Abused <i>Kasambahays</i>	5	0.78	25	5.00
5. Victims of Illegal Recruitment	3	0.47	-	-
6. Unwed Pregnant women	3	0.47	-	-
<b>TOTAL</b>	<b>635</b>	<b>100.00</b>	<b>500</b>	<b>100.00</b>

Source: Social Services Development Department

### 3.4.5 Persons with Disabilities (PWDs)

By 2018, the city has around 30,406 persons with disabilities with more female differently-abled persons (15,419) than males (14,987). Of these figures, only 2,912 or 9.58% were served by SSDD. Among those served, the types of disability among the persons served include: psychological, mental, physical and orthopedic handicap, hearing and speech, visual disabilities and multiple disability. Those with learning disability account for the most number of PWDs served with 649 cases or 22.29% of the total number of PWDs served, followed by the following: persons with physical or orthopedic handicap at 639 (21.94%), persons with hearing/speech impairment with 515 (17.69%), visual disability 448 (15.38%), psychological disability with 416 cases (14.29%), multiple disability with 160 (5.49%), and mental disability with 85 or 2.92% of the total PWDs served.

Types of services provided include Case Management, Capability Building Program, Educational Assistance and Community Based Rehabilitation (CBR). Out of the 2,912 PWDs served, 2,037 were provided with Capability Building Program, 503 with Case Management, 200 PWDs were provided with Educational Assistance while 172 PWDs were served under the CBR. (See Table DS-30)

**Table DS-30: Number of PWDs Served by Type of Disability and Reported Cases of Abandoned/Neglected PWDs by Sex, QC: 2018**

Type Of Disability	Types of services provided				Total	Percent
	Case Management	Capability Building	Educational assistance	Community Based Rehabilitation		
Psychological Disability	91	325	-	-	416	14.29
Mental	40	41	4	-	85	2.92
Learning Disability	90	407	80	72	649	22.29
Visual Disability	69	366	10	3	448	15.38
Physical/Orthopedic Disability	101	427	50	61	639	21.94
Hearing/Speech Impairment	80	387	40	8	515	17.69
Multiple Disability	32	84	16	28	160	5.49
<b>TOTAL</b>	<b>503</b>	<b>2,037</b>	<b>200</b>	<b>172</b>	<b>2,912</b>	<b>100</b>

Source: Social Services Development Department

The Disabled Persons Affairs Committee (DPAC) was created thru City Ordinance No. SP-158, S-94 in recognition of the need to more active participation and involvement of disabled persons in the formulation of policies that would affect their lives. In 2002, the Disabled Persons Affairs Office (DPAO) now known as Persons with Disability Affairs Office (PDAO) was made functional thru City Council Ordinance No. SP-1141, S-2002, which provides for the structural and functional reorganization of the DPAO to be created in lieu of DPAC.

The PDAO handles the issuance of PWD IDs as part of their functions and responsibility and extends to the city's PWD constituents various programs like Capacity Building Program,

Advocacy and Monitoring, Resource generation and Partnership-Building, Linkages and Referrals.

### 3.4.6 Older Persons (OPs)

The elderly population is among the vulnerable groups in need of special attention and protection in Quezon City. In order for them to enjoy the senior citizens' twilight years, government programs for the elderly have been expanded to include projects that will enable them to interact with their peers, articulate their needs, express their interests and participate in developmental undertakings.

The following benefits and privileges are cited under Section 4 of Republic Act 9994 otherwise known as Expanded Senior Citizens Act of 2010 *"An act Granting Additional Benefits and Privileges to Senior Citizens, Further amending RA 7432 of 1992 as amended by RA 9257 of 2003"*:

- Free medical and dental services, diagnostic and laboratory services in all government facilities;
- 20% discount for medicines;
- 20% discount in hotels, restaurants, recreation centers;
- 20% discount in theaters, cinema houses and concert halls;
- 20% discount in medical/dental services, diagnostic and laboratory fees in private facilities;
- 20% discount in fare in domestic air, sea, travel and public transportation;
- 5% discount in basic necessities and prime commodities;
- 12% VAT exemption on purchase of goods and services which are covered by the 20% discount;
- 5% discount for the monthly utilization of water and electricity provided that the water and electricity meter bases are under the name of the senior citizens;
- Exemption from payment of individual income taxes of senior citizens who are considered to be minimum wage earners in accordance with RA No. 9504;
- Exemption from training fees for socio-economic programs;
- DOH-administered free vaccination against the influenza virus and pneumococcal disease for indigent senior citizen patients;
- Educational assistance to senior citizens who pursue postsecondary, tertiary, post tertiary, vocational and technical education, as well as short term courses for retooling in both public and private schools;
- Continuance of the same benefits and privileges given by the GSIS, SSS and the PAG-IBIG, as the case may be, as are enjoyed by those in actual service;
- Provision of express lanes for senior citizens in all commercial and government establishments; in the absence thereof, priority shall be given to them; and,
- Death benefit assistance of a minimum of Php2,000.00 given to the nearest surviving relative of a deceased senior citizen.

Aside from the aforementioned elderly benefits and privileges, the city has passed various City Ordinances and Resolutions for the advantage of the city's elderly. Among these are:

- Ordinance No. SP 1986, S-2009 - An ordinance giving due recognition and reward to city residents aged 100 years or more as part of the city's effort to support senior citizens.

- Resolution No. SP 4629, S-2009 – A resolution urging all cinema operators in QC to grant free admission to all senior citizens of the city every Monday and Tuesday of all films shown in their establishment.
- Ordinance No. SP-2370, S-2014 – An ordinance amending Ordinance No. SP-1986, S-2009 by bestowing the title of ‘Centenarian Citizens’ to Quezon City residents who reached the age of 100 years old, and increasing their corresponding financial rewards to P50,000.00, as additional cash incentive”
- Ordinance No. SP-2472, S-2015 - An ordinance exempting all senior citizens of QC from the payment of initial rate for parking fees in establishments, malls, hospitals parking areas or any other similar places charging the same situated within the territorial jurisdiction of the city and providing penalties for violations thereof.
- Ordinance No. SP-2544, S-2016 – “An ordinance granting death benefit welfare assistance in the amount of at least Php5,000 to the bereaved families of registered resident senior citizens of Quezon City”

The city’s estimated number of persons aged 60 years old and over in 2018 is 203,553. From 1993 to 2018, the Office for the Senior Citizens Affairs Office (OSCA) has issued a total of 536,213 senior citizens card. The figure however, may include cases of cards for deceased elderly or lost cards that were replaced. The city has the problem of inability to track down their present status.

The SSDD, on the other hand, has served about 1,077 males and 5,995 females or a total of 7,072 older persons under their Elderly Welfare Program. The reported number of older persons needing special attention increased from 53 cases in 2015 to 61 in 2018. There were 30 reported cases of abandoned elderly persons, 27 neglected and 4 maltreated older persons. *(See Table DS-31)*

**Table DS-31: Reported Cases of Older Persons in Need of Special Attention By Sex, QC: 2015 and 2018**

Cases	2015			2018		
	Male	Female	Total	Male	Female	Total
Abandoned	7	9	16	9	21	30
Neglected	16	20	36	7	20	27
Maltreated	-	1	1	2	2	4
<b>TOTAL</b>	<b>23</b>	<b>30</b>	<b>53</b>	<b>18</b>	<b>43</b>	<b>61</b>

*Source: Social Services Development Department*

### 3.4.7 Families

A total of 151,823 families in Quezon City have availed the Family Welfare Program in 2018. Of this, 4,657 were served under the Solo Parent services. More female solo parents (4,433) were served than males (224). PhilHealth IDs were issued to 26,284 male household heads and 19,763 female household heads or a total of 46,047 indigent families

The city is included in the *Pantawid Pamilyang Pilipino* Program (4Ps) or the Conditional Cash Transfer Program (CCTP) of the Department of Social Welfare and Development (DSWD) since 2008. This is a rights-based poverty reduction strategy which focuses on human capital

investment through the provision of health and education cash grants to eligible poor households. Its aim is to enable poor households meet certain human development goals and break the inter-generational cycle of poverty through investment in human capital particularly health, nutrition and education.

The provision of cash grants is conditional upon the compliance of the beneficiaries with specific verifiable behaviors such as pregnant women undergoing preventive health check-ups, children 0-5 years old undergoing growth monitoring and receiving vaccinations, and children aged 3-14 years old enrolled in day care, kindergarten, primary and secondary and alternative delivery modes of education maintaining at least an 85% attendance.

As one of the various social assistance programs that have been patterned from Latin American and other developing countries, *Pantawid Pamilya* contributes to the improvement of attendance of children in school and of maternal and child health and nutrition and in the prevention of child labor.

For 2018, 129 barangays were covered by the *Pantawid Pamilyang Pilipino* Program. This represented 90.84% out of the city's 142 barangays and were identified with families below poverty threshold through a Proxy Means Test (PMT) done by DSWD. *Table DS-32* shows that all barangays in District II, District V and District VI are covered by the program. In the other districts the number of barangays covered by the program are as follows: 32 out of the 36 barangays of District I, 33 out of the 37 barangays in District III, and 34 out of the 38 barangays in District IV.

**Table DS-32 Number of Barangays by District Covered by Pantawid Pamilya Pilipino Program, QC: 2018**

District	No. of Barangays	No. of Barangays covered by 4PS
I	37	32
II	5	5
III	37	33
IV	38	34
V	14	14
VI	11	11
<b>TOTAL</b>	<b>142</b>	<b>129</b>

*Source: Social Services Development Department*

There are 36,555 4Ps partner-beneficiaries from 2008-2018 in eight (8) sets or batches, Set 6 in 2013 had the highest registered beneficiaries with 21,327 or 58.34% of the total beneficiaries while the lowest number of registered Pantawid Pamilya members was recorded from Set 2 in 2009 with only 105 beneficiaries (*See Table DS-33*)

**Table DS-33: Number of Pantawid Pamilya Beneficiaries Per District/Set, QC: 2008-2015**

District	Sets/Year								TOTAL
	2008 Set 1	2009 Set 2	2010 Set 3	2011 Set 4	2012 Set 5	2013 Set 6	2014 Set 7	2015 Set 8	
I	11	6	10	803	50	2,738	977	75	4,670
II	1,119	44	53	808	133	7,170	1,323	25	10,675
III	9	4	6	505	19	2,001	524	38	3,106
IV	19	10	9	1,128	58	2,383	1,192	14	4,813
V	29	27	23	2,604	84	3,072	1,846	146	7,831
VI	16	14	19	291	51	3,963	1,081	25	5,460
<b>TOTAL</b>	<b>1,203</b>	<b>105</b>	<b>120</b>	<b>6,139</b>	<b>395</b>	<b>21,327</b>	<b>6,943</b>	<b>323</b>	<b>36,555</b>

Source: Social Services Development Department

### 3.4.8 Social Welfare Facilities

Social welfare services for various sectors were extended by SSDD to its clients in the following welfare service facilities: 296 day care centers in 2018, an increase of 2 DCCs from 294 in 2015; 24 supervised neighborhood play (SNP) centers; 10 night minding centers and/or micro-geo net in various barangays specifically, at Bgys. Paang Bundok, Project 6, Batasan Hills, Quirino 3-A, Loyola Heights, Libis, Dona Imelda, Fairview, Novaliches Proper, and Tandang Sora. In addition, the following centers were established to provide temporary shelter and care to rescued street children and children aged below nine years old whose parents are working or are night vendors: 2 community-based therapeutic rehabilitation centers for PWDs; 1 one-stop shop QC Women Crisis Center located at the QCGH; 1 reception and action center; 1 Molave Youth Home currently being constructed at Diamond Hills, Bgy. Payatas; 1 Senior Citizens' Day Center; 1 drug treatment and rehabilitation center, TAHANAN, and 1 Halfway Home or "Bahay Arugaan" for children in need of special protection particularly abandoned and neglected children located at P. Bernardo Park, Bgy. Kamuning.

### 3.4.9 Other Welfare Institutions/Organizations

At present, there are 32 registered non-government organizations providing welfare services in the city compared to 46 in 2007. This decrease is due to inability to renew accreditation with DSWD on their licenses to operate.

Majority of these welfare agencies' programs and services are community-based and conducted in close coordination with barangay and community leaders of target areas among the city's informal settlements. Activities and services are being undertaken either in barangay halls, health centers, multi-purpose halls and other facilities.

## 3.5 HOUSING

### 3.5.1 Introduction

With a population of 2,936,116, based on PSA 2015 census, Quezon City is the largest city in the country. At a growth rate of 1.17%, the population was estimated to be 3,040,672 in 2018

and is expected to grow to 3,076,345 in 2019. Urban governance in the city is faced with the big challenge of matching this growth in population with corresponding growth in basic services and facilities, given the limited amount of resources at its disposal. The challenge is further worsened by the fact that approximately 31% of the population is poor who are most in need of assistance to improve their quality of life. In addition to poverty, problems of unemployment, urban blight, traffic congestion, high solid waste generation, inadequate health and educational facilities, and housing shortage.

Section 9 (Urban Reform and Housing), Article XIII (Social Justice and Human Rights) of the 1987 Philippine Constitution provides that, *"The state shall, by law, and for the common good, undertake in cooperation with the private sector, a continuing program of urban land reform and housing which will make available at **affordable cost decent housing** and basic services to underprivileged and homeless citizens in urban centers and resettlements areas. It shall also promote adequate employment opportunities to such citizens. In the implementation of such program the State shall respect the rights of small property owners."*

Decent housing, as described by the PSA, are housing units with permanent roofing material, strong outer walls and has a security of tenure.

The 2010 PSA survey disclosed that the proportion of occupied housing units with outer walls made of concrete/brick/stone increased from 46.2% in 2000 to 67.2%. Those with outer walls made of half concrete/brick/stone and half wood decreased from 32.3% in 2000 to 21.8% in 2010. Meanwhile, majority (89.2%) of the occupied housing units in 2010 had roof made of galvanized iron/aluminum, which is higher than the proportion of 77.7% recorded in 2000.

As prescribed in the Implementing Rules and Regulations (IRR) of PD 957 and Batas Pambansa (BP) 220 and amended by Board Resolution No. 824, S-2008, the minimum lot and floor area requirements for the types of housing unit and the housing project are presented in Table DS-34. The minimum floor area (FA) requirement in sq. m. per type of housing project are the same for all types of housing units.

Affordable housing, on the other hand, are housing units with the most reasonable price based on the needs and financial capability of program beneficiaries and appropriate financing schemes. The price should not exceed 30% of the HH income spent on housing and utilities.

**Table DS-34 Shelter Component Minimum Lot Area (LA) & Floor Area (FA) (sq. m.)**

ATYPE OF HOUSING UNIT	PD 957				BP 220			
	OPEN MARKET		MEDIUM COST		ECONOMIC		SOCIALIZED	
	LA	FA	LA	FA	LA	FA	LA	FA
Single Detached	120	42	100	30	72	22	64	18
Duplex/Single Attached	96	42	80	30	54	22	48	18
Row House	60	42	50	30	36	22	28	18

Source: Housing & Land Use Regulatory Board (HLURB)

**Notes:**

1. Saleable lots designated as duplex/single attached and/or row house lots shall be provided with housing components.
2. Price of saleable lots intended for single detached units shall not exceed 40% of the maximum selling price of the house and lot package.
3. Mandatory provision of firewall for duplexes/single-attached units and at every unit for row houses.
4. The number of row houses shall not exceed 20 units per block/cluster but in no case shall this be more than 100 meters in length.

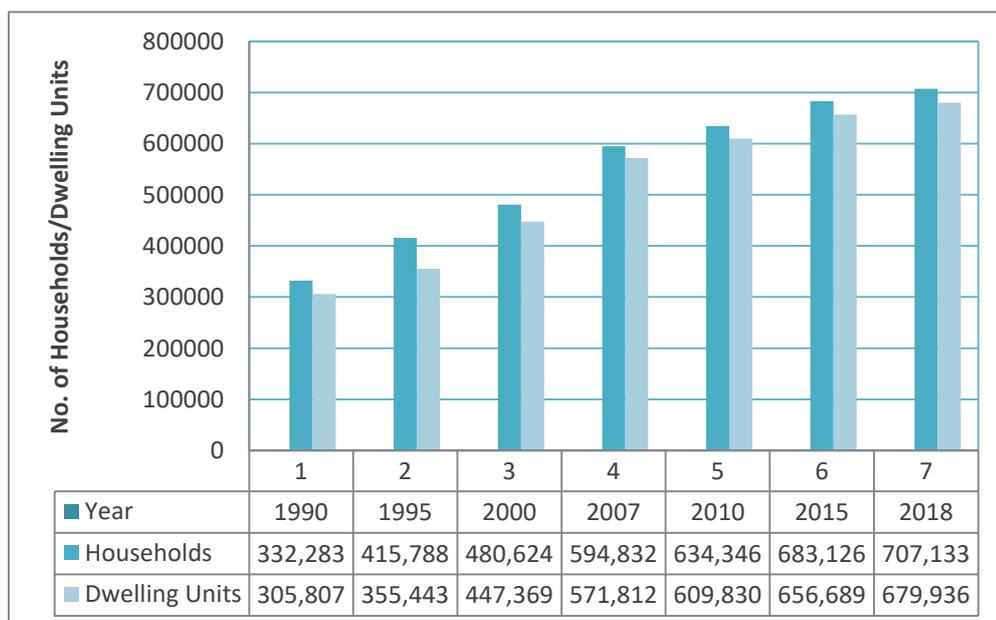
Urban housing is one of the most visible problems in the city as it involves the use of exposed physical resources including land and dwelling structure. The urban poor consisting of informal settler families (ISFs) and slum dwellers and tenants in low-cost but poor rental dwelling units contribute immensely to the city’s housing backlog. Existing government shelter programs cater mostly to ISFs. The tenants and renters in apartments and low-cost but poor rental units are usually neglected despite the fact that they spend a considerable portion of their income on rents. They seek to refrain from squatting, keep their tenurial status legitimate and aspire to have their own housing. Aside from them, new households being formed every year expand the sector in need of shelter. The Local Government Code of 1991 provides the statutory framework for the devolution of local public administration and service delivery responsibilities as well as revenue mobilization powers to LGUs. Republic Act 7279 or the Urban Development Housing Act of 1992 (UDHA) requires LGUs to provide socialized housing and other mass dwellings especially for the poor and underprivileged.

### 3.5.2 Current State of Housing in Quezon City

#### Households and Occupied Dwelling Units

The 2010 PSA survey indicated that there were 634,346 households occupying 609,830 dwelling units. This translates to a ratio of 104 households for every 100 occupied housing units. Average household size was 4.3 persons which is lower than the average household size of 4.8 in 2000. In 2015, the number of households was recorded at 683,126 and the number of occupied dwelling units at 656,689. In 2018, the estimated total number of households was 707,133 while the total number of dwelling units was 679,936. (Refer to Figure DS-22)

In the city, 47% of the 634,346 households owned or amortized the lots they occupied, higher than the 2000 survey at 36.3% of the 480,624 households. Moreover, 30.8% of the households rented the lots they occupied, 12.1% occupied lots which were rent-free and with consent of the owner while 8.5%, 53,943 HH or 231,955 persons are informal settlers occupying lots which were rent-free but without the owner's consent. (Refer to Figure DS-23)



**Figure DS-22: Comparative Number of Households & Occupied Dwelling Units, Quezon City: 1990-2018**

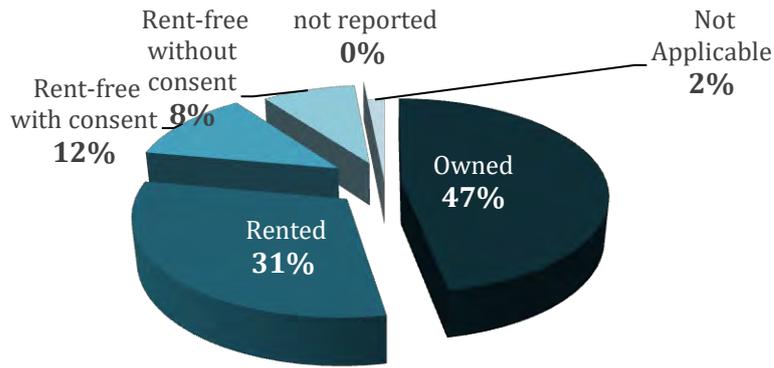


Figure DS-23: Number of Households by Tenure Status of the Lot, QC: 2010

### Doubled-up Households

Doubled-up household exists when one dwelling unit is shared by 2 or more households. In 2018, the city has an estimated number of households at 707,133 and number of occupied dwelling units at 679,936. By these figures alone, the doubled-up households are determined to be 27,197, not considering the fact that many of the existing dwelling units are already in a state of deterioration and in need of either improvement or total replacement.

### Homeless

These are individuals or households living in parks, along sidewalks, and all those without any form of shelter. Using a factor of 0.1% of the total household population, it is estimated that there are 707 homeless people in the city. Each homeless is counted as one household to be provided with housing.

### Unacceptable and Makeshift Dwelling Units *Source: Philippine Statistics Authority (PSA)*

Unacceptable dwelling unit refers to housing units with at least 5% made of “mixed materials” and with walls and roofs made of wood, cogon/nipa/anahaw, asbestos and others. PSA data show that the number of this type of housing in QC is diminishing by 9.14% annually since the materials are not grown in the city but are commonly used in the rural areas where they are easily harvested. Makeshift housing units are likewise decreasing by 8.52%. According to the PSA, the city had a total number of 13 unacceptable housing units and 2,596 makeshift/salvaged/impooverished housing units in 2010. By 2015, there are 1,110 units of all these types of dwellings.

### Informal settlers

A large section of the city population in need of adequate shelter consists of informal settlers occupying idle, public and private lands. Public lands consist of parcels owned by different government agencies, designated open spaces, road right-of-ways, aqueducts, and danger areas like dumpsites and easements of transmission lines, rivers and creeks. Relocation is the only intervention option for those in danger zones and sites for government infrastructure projects as provided by UDHA.

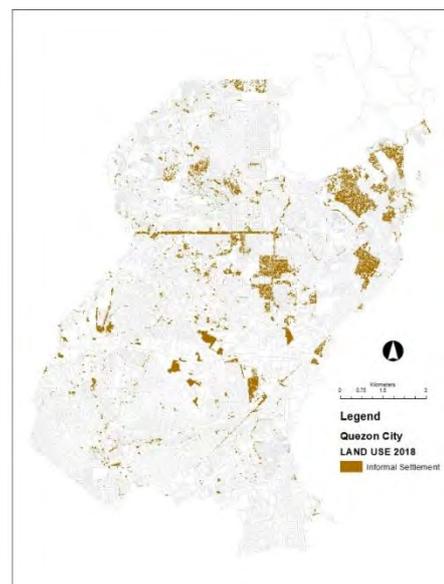


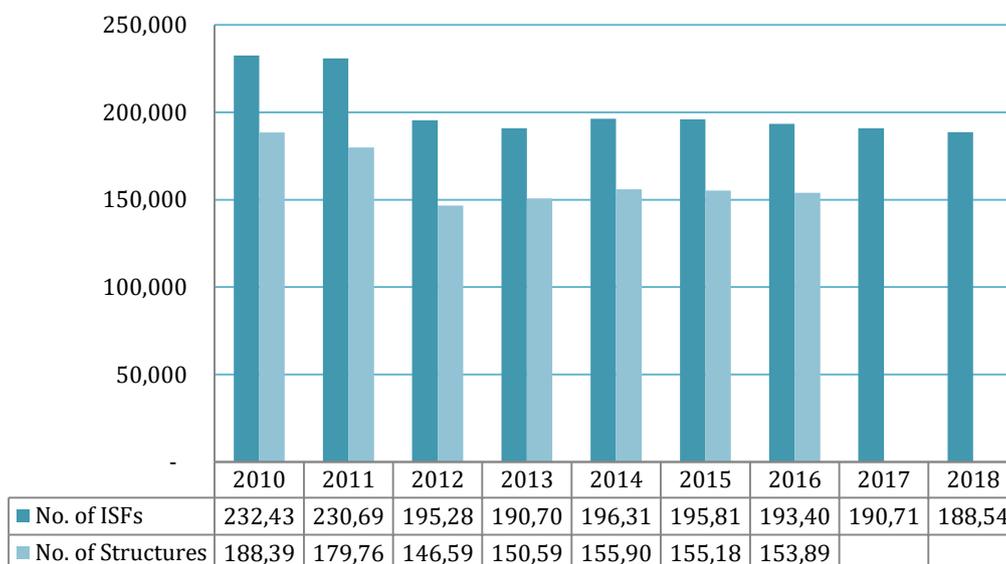
Figure DS-24: ISF Map: QC 2018

The results of a census-survey done by the Housing Community Development and Resettlement Department (HCDRD), formerly Urban Poor Affairs Office (UPAO) as a continuing activity revealed that the number of ISFs is increasing from 2008 to 2010. However, a decreasing trend observed from 2011-2013 was mainly attributed to massive relocation activities for ISFs occupying danger areas particularly river and creek easements affected by flooding and the clearing of the list and database of ISFs by HCDRD. There was a significant increase of ISFs residing in danger areas and waterways infrastructure from 2011 to 2015. This can be associated with factors such as in-migration or transfer within the city from one barangay to another; natural growth from births; and other supervening and unavoidable circumstances. However, the number of ISFs in these areas then decreased from 2015 to 2018.

In contrast to the census data in July 2010 which was exclusively conducted by HCDRD, the subsequent census data were culled from the consolidated census reports of HCDRD and other local and national government agencies.

In 2014, there was a slight increase in the total number of ISFs, while a significant decrease was observed from 2015 to 2018. The number of ISFs in 2014 increased to 195,875 housed in 155,184 structures. Actual census in 2015 covered 194,736 ISFs housed in 153,892 structures, a decrease of 1,757 ISFs from the 2014 census survey results. In 2016, the number of ISFs decreased to 193,403 housed in 155,780 structures. It further decreased in 2017 and 2018, to 190,718 and 188,549 ISFs, respectively. *(Refer to Figure DS-25)*

Considering the magnitude of ISFs, majority 90,778 families or 48.14% are occupying private properties, 43,368 families or 23.00% in danger areas and government infrastructures, while 54,403 families or 28.86% are within government lots, government projects including the declared area for priority development (APD) sites and some open spaces. Their needs are in terms of resettlement or on-site upgrading through any of a combination of tenurial and/or infrastructural upgrading (145,181) and structural improvement (9,828). *(Refer to Figure DS-25)*



Source: HCDRD

Figure DS-25: Number of Informal Settler Families (ISFs) & Structures, QC: 2010-2018

At the district level, the bulk of ISFs representing 26.49% in 2014 and 26.86% for 2015 are in District II, followed by Districts VI and IV. (Refer to Table DS-35) However from 2016 to 2018, there was no data disaggregation on the distribution of ISFs per district.

**Table DS-35: Number and Percent Distribution of Informal Settler Families by District, Quezon City: 2012-2015**

District	2012		2013		2014		2015	
	No.	%	No.	%	No.	%	No.	%
I	24,882	12.81	25,248	13.24	27,689	14.14	28,436	14.60
II	53,849	27.72	49,468	25.94	<b>51,887</b>	<b>26.49</b>	<b>52,308</b>	<b>26.86</b>
III	20,191	10.39	19,882	10.42	20,080	10.25	19,355	9.94
IV	31,334	16.13	31,673	16.61	31,289	15.97	29,319	15.06
V	30,189	15.54	30,385	15.94	28,777	14.69	28,314	14.54
VI	33,842	17.42	34,050	17.85	36,153	18.46	37,004	19.00
<b>TOTAL</b>	<b>194,287</b>	<b>100.00</b>	<b>190,706</b>	<b>100.00</b>	<b>195,875</b>	<b>100.00</b>	<b>194,736</b>	<b>100.00</b>

Source: Housing Community Development and Resettlement Department (HCDRD)

Table DS-36 below shows the magnitude of informal settlers in the city by area classification.

**Table DS-36: Number of Informal Settler Families by Area Classification Quezon City, 2010-2018**

Area Classification	Year								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>1.a. Danger Areas</b>									
• Waterways	11,000	10,649	14,181	16,358	16,441	15,577	14,313	44,450	43,368
• Transmission Lines	3,100	4,483	7,895	7,895	7,895	7,895	7,472		
• Dumpsite	1,150	953	907	907	907	907	907		
• Under The Bridge	532	745	693	693	732	710	710		
• Landslide zone	0	0	296	296	296	296	296		
<b>1.b. Government Infrastructures</b>									
❖ Sidewalk	1,923	2,878	2,634	2,567	2,840	2,534	2,534		
❖ RROW / Road lot	1,247	6,365	9,554	5,760	6,504	6,743	6,354		
❖ MNTC / Republic Ave.	0	0	0	3,667	3,806	3,806	3,806		
❖ MWSS	222	5,767	5,749	7,506	10,841	10,842	10,085		
2. Government Properties	80,779	77,581	34,453	34,203	34,325	35,426	36,831	36,831	36,179
3. Government Projects	1,813	818	769	1,182	2,784	2,638	2,563	2,563	2,563
4. Area for Priority Development (APD)	14,767	14,846	14,715	14,715	14,715	13,269	13,269	13,269	13,269
5. Open Space	2,663	2,663	2,658	2,974	3,005	2,392	2,392	2,392	2,392

6.Private properties	101,320	102,946	100,783	91,983	90,784	91,701	91,871	91,213	90,778
<b>Grand Total</b>	<b>232,430</b>	<b>230,694</b>	<b>195,287</b>	<b>190,706</b>	<b>195,875</b>	<b>194,736</b>	<b>193,403</b>	<b>190,718</b>	<b>188,549</b>

Source: Housing Community Development & Resettlement Department (HCDRD)

### Dwelling Units Needing Improvement

Structures needing improvement due to deterioration and obsolescence are also considered in determining the city's total housing requirements. Based on a factor of 2% of the total housing stock, that is excluding the informal settlers, there are about 9,800 housing units in the city that require improvement.

### Summary of Shelter Needs

In summary, the city needs a total of 123,000 new housing units for all segments of the population arising from the current housing backlog and population growth. The other requirements come from 9,800 households of the population whose structures need improvement and from the remaining 145,181 ISFs occupying lands that not for clearing yet. A mix of upgrading options like stabilization of land and housing tenure, and improvement of infrastructure facilities and structures are required for these big number of ISFs. (See Table DS-37)

Table DS-37: Summary of Shelter Needs (2018-2023)

Shelter Needs	Present Needs (2018)	Future Needs (2019-2023)	Total
<b>New Housing Units Due To</b>			
<i>Housing Backlog</i>			
Doubled-up households	27,197		27,197
Unacceptable housing units	1,110		1,110
Homeless	707		707
Displaced Units	43,368		43,368
<i>Sub-total</i>	<i>72,382</i>		<i>72,382</i>
<i>Formation Of New Households</i>		50,642	123,024
<b>Total</b>	<b>77,539</b>	<b>50,642</b>	<b>123,024</b>
<b>Upgrading Needs</b>			
Structural (2% of formal population)			<b>9,828</b>
Tenorial/infrastructural			<b>145,181</b>

### 3.5.3 Sources of Housing Supply and Tenure Types

#### Open Market

#### Condominiums

Investing in a condominium unit in Quezon City is a lucrative decision, personally and financially. Most developments in the city are located in or near key districts, and neighboring shopping centers, such as in Cubao and North Avenue, providing residents easy access to most

daily living and leisure needs. Other key locations are near schools, such as in Katipunan Avenue and Diliman area.

Today, more and more people are opting to choose the condominium lifestyle as it is perceived to be the most practical, especially in highly urbanized areas. These high-rise residential buildings offer recreational amenities, such as swimming pools, gyms, day care centers, landscaped gardens and 24-hour security. Flats are also flood-free and earthquake-proof as these buildings have to pass certain standards that ensure its safety amidst any possible natural occurrences. While most students rent a condo or a room in a dormitory for the duration of their stay in Quezon City, families and newly married couples buy units in preparation for the long-term education of their children. For enterprising individuals, buying a condo in these areas also mean continuous occupancy and continuous income because of the high demand.

From 2014 to 2018, the City Planning and Development Department has issued a total of 37 locational clearances (LC) for condominium projects, with Districts III and IV having the same number of LCs issued at 11, while District II has none. In 2018, thirteen (13) LCs for condominium projects were issued. (See Table DS-38A)

**Table DS-38-A: Number of Locational Clearances Issued for Condominium Projects by District, Quezon City: 2014-2018**

Year	Locational Clearances Issued						Total
	I	II	III	IV	V	VI	
2014	1	0	3	5	0	1	10
2015	4	0	2	1	1	1	9
2016	0	0	0	1	0	1	3
2017	0	0	0	1	0	1	2
2018	5	0	4	4	0	0	13
<b>TOTAL</b>	<b>10</b>	<b>0</b>	<b>11</b>	<b>11</b>	<b>2</b>	<b>3</b>	<b>37</b>

Source: Zoning Administration Unit, City Planning and Development Department

Table DS-38B presents the list of selected condominiums in Quezon City, the features, floor area and its price per unit arranged by unit price.

**Table DS-38-B: List of Selected Condominiums, Quezon City**

Name of Condominium / Location	Features	FA (sq. m.)	Price (PhP M)
Manhattan Plaza Tower 1 / Araneta Center, Cubao Bgy. Socorro	2 BR, 1 T&B	105	12.20
Columbia Garden / Bgy. Batasan Hills	4 BR, 3 T&B	113	6.50
Eastwood Legrand 1 / Eastwood City, Bgy. Bagumbayan	1 BR, 1 T&B	42	5.50
Zinnia Towers / EDSA Munoz, Bgy. Apolonio Samson	3 BR, 2 T&B	75	5.43
One Orchard Condominium / Bgy. Libis	1 BR, 1 T&B	57	5.00
DMCI Homes / E. Rodriguez cor T. Morato Ave., Bgy. Laging Handa	2 BR, 1 T&B	56	4.67
Redwoods Condo, DMCI Homes / Quirino Highway, Novaliches	2 BR, 1 T&B	56.5	4.50
Penthouse Condo / Tandang Sora & Katipunan Ave.	2 BR, 1 T&B	56	4.40
Avida Towers New Manila / Boni Serrano Ave., Bgy. Bagong Lipunan ng Crame	2 BR, 1 T&B	46	3.80
Victoria Towers 2 / Timog cor Panay Ave., Bgy. Pinagkaisahan	2 BR, 1 T&B	41	2.98
Zinnia Towers North Tower / Katipunan Avenue	1 BR, 1 T&B	42	2.96
Francesca Royale Condo / Mindanao Ave., Novaliches QC	1 BR, 1 T&B	41	2.73
Capitol Plaza Condo / Matalino St., Diliman, QC	1 BR, 1 T&B	27	2.65
Trees Residences / Bgy. Pasong Putik, Novaliches	2 BR, 1 T&B	30	2.29

Amaia Skies Cubao / EDSA cor. P/ Tuazon Ave., Bgy. Socorro	1 BR, 1 T&B	27	2.20
Francesca Royale Condo / Bgy. Alicia	1 BR, 1 T&B	26	1.88
Phinma Properties Midrise Condo / Novaliches, QC	1 BR, 1 T&B	30	1.39
Hacienda Balai / Zabarte Rd., Novaliches QC	1 BR, 1 T&B	30	1.14

Source: Lamudi, Philippines

### **Townhouses**

The city has a large number of registered residents, which is steadily increasing. It has also allowed for a diverse real estate market. Townhouses for sale in Quezon City are just one of the many options, and are the most recommended property type for new residents of the city.

Townhouses are significantly more affordable than traditional house and lot, but still allow residents to enjoy the same sense of privacy and security of having their own home. While priced closely to modern condominiums, townhouses offer more room, and are more suitable for families. Similar to condos however, they are always readily available in the city and located closer to business districts than traditional houses. Notable areas where one should look for a Quezon City townhouse for sale are in the following:

- Teachers Village and U.P. Village in Diliman
- Katipunan Avenue
- Batasan Hills, BF Homes QC, and Filinvest 1-2 in Commonwealth Avenue
- Cubao
- Timog Avenue and the Scout Areas
- Novaliches
- New Manila

Buyers will be pleased to know that the city offers many housing options within a wide range of prices are available in the city. Homes within the subdivisions in Tandang Sora are being sold from Php7.50M to 9.80M. Those within Commonwealth Avenue are being sold for Php.50M and Php6.78M, respectively. Affordable townhouses in the Novaliches area are being sold for less than Php5.0M while high-end townhouses in the Scout areas are being sold for Php25.0M, more or less.

From 2014 to 2018, the City Planning and Development Department has issued a total of 705 Locational Clearances (LC) for townhouse projects. District 5 has the most number of LCs issued with 345, while District 3 has the least, with 36. In 2016, three hundred fifteen (315) LCs for townhouse projects were issued.

**Table DS-39-A: Number of Locational Clearances Issued for Townhouse Projects, Quezon City: 2014-2018**

Year	Locational Clearances Issued						Total
	I	II	III	IV	V	VI	
2014	5	9	2	3	4	6	<b>29</b>
2015	20	14	5	11	47	51	<b>148</b>
2016	26	20	19	19	207	24	<b>315</b>
2017	29	10	6	16	48	24	<b>133</b>
2018	13	1	4	5	39	18	<b>80</b>
<b>TOTAL</b>	<b>93</b>	<b>54</b>	<b>36</b>	<b>54</b>	<b>345</b>	<b>123</b>	<b>705</b>

Source: Zoning Administration Unit, City Planning and Development Department

*Table DS-39-B: List of Selected Townhouses, Quezon City*

Name of Townhouse / Location	Features	Floor Area (sq. m.)	Price (PhP M)
4-Car Garage New Manila Townhouse / New Manila, QC	4 BR, 4 T&B	510	45.50
Duplex Type Townhouse, Scout Area near Tomas Morato Avenue, Q.C.	5 BR, 4 T&B	330	24.90
Project Balintawak Townhouse, Q.C.	4 BR, 4 T&B	280	21.80
4-sty. Townhouse / V. Luna, Bgy. Pinyahan, Diliman QC	5 BR, 5 T&B	280	16.50
3-sty. Townhouse / E. Rodriguez Ave., Cubao, QC	4 BR, 3 T&B	155	13.50
Sunny Villas Condominium	4 BR, 4 T&B	277	12.90
3-sty. Townhouse / Cenacle Drive, Bgy. Culiati, QC.	4 BR, 3 T&B	232	12.50
4-sty. Townhouse / near EDSA-Araneta, Cubao, Q.C.	3 BR, 3 T&B	250	11.90
3-sty. Townhouse / Tandang Sora-Visayas Ave., QC	4 BR, 4 T&B	216	9.80
3-sty. Townhouse, Bgy. Batasan Hills, Q.C.	3 BR, 3 T&B	140	7.95
Townhouse / Aurora Blvd. Cubao, Bgy. Silangan	3 BR, 3 T&B	139	7.90
3-sty. Townhomes / Congressional Ave. Ext. & TS Ave., Bgy. Culiati QC	4 BR, 3 T&B	175	7.50
2-sty. Townhouse, Project 8, Bgy. Bahay Toro	3 BR, 3 T&B	120	6.90
Townhouse, Commonwealth Ave. (near QC Circle, UP Technohub), QC	3 BR, 3 T&B	129	6.78
3-sty. Townhouse, near Commonwealth Avenue, West Fairview, Q.C.	3 BR, 3 T&B	141	5.50
RFO Townhouses, Kathleen Place (near TV5), Novaliches, QC	3 BR, 3 T&B	104	4.59
2-Car Garage Townhouse, Mindanao Avenue near Wilcon Depot, Q.C.	3 BR, 2 T&B	120	4.00

Source: Lamudi, Philippines

### **Condominium Units for Rent**

Condominium for rent is one of the best ways to get the most out of living in the Metro. Units provide easy access to key areas, and renting as opposed to buying allows for financial flexibility, especially if one would rather have a house in the future. Monthly rental rates range from PhP10,000.00 for a studio unit to PhP33,700.00 for a two-bedroom flat. Renters who are ready to become buyers also have an option for rent-to-own properties, which are just as popular in QC.

For residents and workers who prefer a condo unit for rent in Quezon City of walking distance from office towers and shopping malls, then the many residential buildings in Eastwood City offer a good choice. It consists of a combination of commercial and residential areas that provide its occupants almost everything, whether it is work, groceries, or leisure. While one of the more popular mixed commercial and residential districts in the city, Eastwood City is not the only place to find good quality residences.

Notable estates along Katipunan Avenue offer potential tenants proximity to the city's top schools, such as Ateneo De Manila University, Miriam College, and University of the Philippines Diliman.

As one of the busiest business districts of the city, Cubao is yet another neighborhood with plenty of condo options. This area is an ideal choice particularly for those who work in one of the bustling business process outsourcing (BPO) offices.

From multiple bedrooms to a studio type for rent in Quezon City, condominiums may also be in stand-alone self-contained estates. These projects are like communities in their own right and many of which boast exclusive amenities that residents can enjoy. Among these projects include DMCI's Accolade Place and The Manors at Celebrity Place, Robinsons Magnolia in Aurora Boulevard, and 53 Benitez by the Rockwell subsidiary, Rockwell Primaries.

Table DS-40 reflects the list of some of the condominium units for rent in Quezon City, the features, floor area and its respective rental rate per unit.

*Table DS-40: Condominium Units for Rent , Quezon City*

Location	Features	Floor Area (sq. m.)	Rental rate (in PhP)
Binondo Condo Penthouse, Ayson Bldg., Bgy. Salvacion	3 BR, 3 T&B	184.47	80,000.00
SMDC Berkeley Residences, Katipunan Avenue, Q.C.	2 BR, 2 T&B	46.85	32,000.00
Eastwood City Cyber Park, Bgy. Bagumbayan, Q.C.	1 BR, 1 T&B	36.00	26,000.00
Magnolia Residences, N. Domingo cor. Dona Hemady St.	1BR, 1 T&B	36.00	26,000.00
Grand Palazzo Eastwood, Bgy. Bagumbayan, Q.C.	1 BR, 1 T&B	57.00	25,000.00
Zinnia Towers, North Avenue, Q.C.	1 BR, 2 T&B	40.00	23,000.00
SMDC Place, Panay Avenue, Bgy. South Triangle	1 BR, 1 T&B	30.08	20,000.00
Trees Residences, Novaliches, QC	1 BR, 1 T&B	23.00	20,000.00
Avida Towers (w/ balcony), Bgy. Bagong Lipunan ng Crame	2 BR, 1 T&B	50.00	19,000.00
Princeton Residences, Aurora Blvd., Bgy. Valencia	1 BR, 1 T&B	23.47	18,750.00
Avida Towers Vila, near Quezon Ave., Bgy. Bagong Pagasa	1 BR, 1 T&B	20.87	18,000.00
Greenhills Garden Square, Boni Serrano Ave., Bgy. Bagong Lipunan ng Crame	1 BR, 1 T&B	57.50	18,000.00
Congressional Avenue, Quezon City	1 BR, 1 T&B	23.55	17,000.00
Vista 309 (Studio-Type), Katipunan Ave, Bgy. Loyola Heights	1 BR, 1 T&B	21.00	16,000.00
Vivaldi Residences (Studio-type), Cubao, Q.C.	1 BR, 1 T&B	18.00	10,000.00
SMDC Sun Residences, Mayon St., Bgy. Sta. Teresita	1 BR, 1 T&B	20.00	12,500.00
TecPhil Suites, Upsilon Drive, Bgy. Matandang Balara	2 BR, 1 T&B	28.00	9,500.00

Source: Lamudi, Philippines

### ***Apartment Units for Rent***

Apartments for rent in Quezon City provide opportunity to experience the city if one is new to the area or are unsure of how long they will be staying. The city's many residential areas have flats available for rent for every budget.

In the Scout Area between Timog Avenue, EDSA, and Quezon Avenue, one can find a low-rise Quezon City apartment for rent with rates that range from Php10,000.00 to Php20,000.00 per month, depending on the square footage. The area is popular among people who frequent Tomas Morato where numerous restaurants and artsy eateries are situated. Further north in Congressional Avenue are contemporary-designed row houses with rental rates that range from Php20,000.00 to Php40,000.00 per month. These flats offer larger living spaces, yards, and garage space for up to three cars.

Quezon City is a large place and, arguably, less hampered by space constraints than other cities like Makati or Mandaluyong in Metro Manila. An apartment for rent in QC can provide almost as much indoor space as a modest house yet still have the conveniences of a high-rise condominium.

Table DS-41 shows the list of apartment units for rent in Quezon City, the features, floor area and respective rental rates per unit.

**Table DS-41: Apartment Units For Rent in Quezon City**

Location	Features	Floor Area (sq. m.)	Monthly rental (in Php)
West Avenue cor. Cavite St., Bgy. Paltok, Q.C.	2 BR, 2 T&B	80.00	38,000.00
Bgy. Sta. Teresita, Q.C.	3 BR, 2 T&B	200.00	30,000.00
9 Illinois St., Cubao, Q.C.	2 BR, 1 T&B	65.00	25,700.00
14 Cabotage St., Bgy. Paltok	2 BR, 1 T&B	75.00	15,000.00
1347 UP Bliss, Diliman, Q.C.	2 BR, 1 T&B	68.00	15,000.00
Apartment Studio-type, Pine Crest, Aurora Blvd. Bgy. Horseshoe, Q.C.	1BR, 1 T&B	28.75	15,000.00
Bgy. Teacher's Village East, Q.C.	1 BR, 1 T&B	33.00	15,000.00
B51 L17 Panyo Palaran St., Bgy. Greater Lagro	2 BR, 2 T&B	60.00	15,000.00
General Wood St., SFDM, Bgy. Damayan	2 BR, 1 T&B	85.00	14,000.00
11 Kawayan Ext. St., Napocor Village, Bgy. Pasong Tamo	2 BR, 1 T&B	50.00	12,000.00
Bgy. Teachers Village West	1 BR, 1 T&B	40.00	11,500.00
Apartment Studio-type, E. Rodriguez Avenue, Q.C.	1 BR, 1 T&B	24.00	10,000.00
Project 4, Bgy. Milagrosa Q.C.	1 BR, 1 T&B	18.00	10,000.00

Source: Lamudi, Philippines

### ***Rent-to-Own Housing Scheme***

Rent-to-own homes, also called a *lease contract with an option to buy* or a *lease-to-own contract*, are quickly becoming popular in the Philippines, especially in Metro Manila. It is an alternative way for homebuyers to buy a home upfront, even if at the moment they do not have enough cash for down-payment. In a rent to own transaction, a homebuyer pays a monthly credit on top of the rent for the property. For example, a house for sale in Quezon City with a selling price of Php5M is also being rented out for Php20,000.00. But with the rent to own option in place, the renter-buyer might pay a rent Php25,000.00 a month for an agreed-upon lease duration of two years: Php20,000.00 is for the actual rent of the house and Php5,000.00 goes to the rent-to-own credits.

The rent-to-own contract may stipulate that after the two-year rent period, the renter-buyer should buy the house, either in cash or through a housing loan, and the Php120,000.00 rent credits that the renter-buyer has accumulated over two years will form part of the down payment. If the renter-buyer needs to shell out 10% as down-payment for the property, after two years he has already accumulated Php120,000.00 and will only need to pay Php380,000.00 more. What is good about this arrangement is that the homebuyer will have ample time to save enough money for the rest of the down-payment and fix here/his credit standing to qualify for a housing loan.

To avail of a house under a rent-to-own option, the renter-buyer must enter into an agreement contract with a lessor-seller. Therefore, it is very important to seek the help of a lawyer in drafting the said contract to make that all terms are legal and fair to all concerned parties. One important aspect of a rent-to-own agreement is for both parties to strictly abide by the contract. If the buyer-renter violates the contract, she or he risks getting her/his rent credits or the extra Php5,000.00 paid every month voided. On the other hand, if the lessor-seller violates the contract, she or he must return all the rent credits the renter-buyer has paid during the lease period and will have to go back and find a new tenant-buyer.

There may be downsides with a rent-to-own transaction. Licensed brokers recommend to either the buying and selling parties to be utmost sure before signing anything because when they do, they must abide by what is stipulated in the contract. But definitely there are upsides, too, especially for homebuyers. One is that a rent-to-own transaction buys them enough time to build their down payment and fix their credit history, while also becoming a homeowner in the process.

The city makes available the different housing assistance.

***Rent-to-own Housing Financial Scheme***

Package Price Of Housing Unit	:	Php 450,000.00
Rental Period	:	60 Months (5 Years)
Rental Fee	:	Php 1,300.00 per month
Carryover Payments	:	Php 60,000.00 (Php 1,000.00 per mo.)
Package Price After 5 Years	:	Php 390,000.00
Interest Rate After 5 Years	:	5.08292 %
Payment Period	:	30 YEARS
Monthly Amortization After 5 Yrs	:	Php 2,113.41 (excl MRI & Fire Insurance)
Financing Institution After 5 Yrs	:	HDMF / SHFC / IN-HOUSE FINANCING
Equivalent Interest Rate	:	4.5 % of HDMF

*Source: HCDRD*

***National Government***

The National Housing Authority (NHA), upon request of local government units, provides technical and other forms of assistance in the implementation of their respective urban development and housing programs with the objective of augmenting and enhancing local government capabilities in the provision of housing benefits to their constituents. Said agency is the key player in providing house and lot units in off-city resettlement areas while the City Government is involved in providing financial, trucking and food assistance during relocation.

At present, the NHA provides resettlement sites for the ISFs and other displaced households in the city. These sites are located in the Pandi, San Jose del Monte, Norzagaray, Bocaue and Balagtas in Bulacan and the municipalities of Rodriguez, Teresa and Morong in Rizal. However, the number of relocation allocation provided by NHA is not enough to accommodate the city’s demand.

The number of ISFs from danger areas relocated to NHA resettlement sites from 2010 to 2018 was 26,272 broken down as follows:

Waterways	:	10,918
Infrastructure	:	8,363
North Triangle	:	6,664
Fire Victims	:	327

*Table DS-42* below shows the breakdown on the number of ISFs relocated to identified NHA resettlement sites per area classification.

Table DS-42: No. of ISFs Relocated to NHA Resettlement Sites, QC: 2010-2018

Area Classification	Number of Informal Settler Families Relocated (Off-City)								
	Pandi, Bulacan	SJDM, Bulacan	Norzagaray, Bulacan	Bocau, Bulacan	Balagtas, Bulacan	Teresa, Rizal	Morong, Rizal	Rodriguez Rizal	TOTAL
Waterways	3,078	2,574	459	664	213	170	1,415	2,345	<b>10,918</b>
Infrastructure	2,036	1,501	109	313	41	79	466	3,818	<b>8,363</b>
North Triangle	0	1,208	0	0	0	0	0	5,456	<b>6,664</b>
Fire Victims	140	0	57	0	0	0	130	0	<b>327</b>
<b>TOTAL</b>	<b>5,254</b>	<b>5,283</b>	<b>625</b>	<b>977</b>	<b>254</b>	<b>249</b>	<b>2,011</b>	<b>11,619</b>	<b>26,272</b>

Source: NHA /HCDRD

### Local Shelter Program

#### 1. Community Mortgage Program (CMP) and Direct Sale Program

Per HCDRD records as of December 2018, the total number of city-originated CMP taken-out (T.O.) projects is 293 with 13,462 beneficiaries, and that there are still 56 on-going CMPs at various stages of development.

Table DS-43-A: Number of CMP Taken-Out Projects and Beneficiaries by District, QC: 1990-2018

YEAR	No. of Projects	No. of Beneficiaries
1990-2010	216	9,144
2011	20	957
2012	8	516
2013	4	159
2014	10	470
2015	11	736
2016	7	401
2017	9	407
2018	8	672
<b>TOTAL</b>	<b>293</b>	<b>13,462</b>

Source: HCDRD

Other CMP taken-out projects within Quezon City were mobilized by the non-government organizations (NGOs) and other government agencies. As of December 2018, there are 226 CMP taken-out projects with 12,245 beneficiaries.

From 2001 through 2018, the Subdivision Administration Unit and Regulation Division (SAURD) was able to process and approve 316 CMP Projects covering a total area of 1,587,702 sq. m. with 32,110 beneficiaries.

However, as to the "open market" projects in accordance with PD 957, from 2001 to 2018 the SAURD was able to process and approve 138 housing projects covering a total of 2,675,363.93 sq. m. with 10,636 saleable lots.

The Direct Sale Program of the City Government, on the other hand, intends to assist the informal settler families (ISFs) occupying city-owned properties to acquire the lot by way of direct payment through monthly amortization for 25 years. As of June 2019, the City has

disposed 25 projects in different barangays with 6,086 beneficiaries and families. The City, under the administration of Mayor Herbert M. Bautista have also provided assistance for the segregation of titles of beneficiaries, of which 730 of them are now TCT holders.

*Table DS-43-B: Awarded Projects Under Direct Sale Program, QC: as of June 2019*

No.	Barangay	Dist	Project	BEN	CTS	DOAS	TCT Trans
1	Alicia	1	Block 55 Bago Bantay	30	10	3	1
2	Baesa	6	ASAMBA*	297	301	131	94
3	Baesa	6	Sitio Pajo	325	325	84	35
4	Bagong Silangan	2	Asprer	491	253	0	0
5	Bagong Silangan	2	Covenant*	341	369	81	20
6	Bagong Silangan	2	Lot 106	790	749	338	210
7	Bagong Silangan	2	Sambasila	43	43	8	0
8	Bagumbuhay	3	F. Castillo	84	84	84	10
9	Bahay Toro	1	Shorthorn	52	48	38	27
10	Bungad	1	Lot 21 Block 17*	100	103	47	20
11	Escopa III	3	Escopa MRB	60	41	0	0
12	Escopa III	3	Escopa PUD	542	381	80	45
13	Fairview	5	SIRNAI, SAPAMANAI, RABOSNA	1,125	799	148	0
14	Fairview	5	Sto. Nino	116	128	1	0
15	Kaligayahan	5	Pangasinan	60	60	20	2
16	Kaligayahan	5	Tawid Sapa II Phase I	360	360	219	141
17	Kaligayahan	5	Tawid Sapa II Phase II	384	370	67	31
18	Kaligayahan	5	Tawid Sapa II Phase III	87	88	72	7
19	Manresa	1	Manresa	93	94	41	0
20	Novaliches Proper	5	Emerald	36	36	0	0
21	Payatas	2	SANDIG	210	141	0	0
22	Quirino 2-B	3	Tampoy St.	37	32	25	19
23	San Antonio	1	Lot 5*	153	168	116	40
24	San Jose	1	Samahang Magkakapitbahay*	179	215	79	28
25	Sta. Lucia	5	Samahang M. Aquino Neighborhood	91	82	4	0
<b>TOTAL</b>				<b>6,086</b>	<b>5,280</b>	<b>1,686</b>	<b>730</b>

Source: HCDRD

Note: \* Subdivision of lots due to increase in the number of beneficiaries

BEN - Beneficiaries

CTS - Contract To Sell

DOAS - Deed of Absolute Sale

## 2. Quezon City Socialized Housing Program

The Quezon Task Force on Socialized Housing and Development of Blighted Areas (Task Force Housing) was created to direct and coordinate multi-department participation on housing and community development-related activities such as engineering, social services, planning and development, housing and resettlement. It was the driving force behind the creation of the new

in-city housing community handling the Quezon City housing projects, with the HCDRD, non-government organizations (NGOs) and housing financial institutions as partners in development.

The main objective of the Quezon City Socialized Housing Program is to create slum-free communities. Thus, the focus is to transform slums within the city, into well-organized and livable communities, with multi-purpose facilities through which government can extend public services such as, health, livelihood and daycare education. This way, the program's twin aims of upgrading the living conditions of the poor and of removal of urban blight, which benefits neighboring areas as well, are being achieved simultaneously.

To date, there are thirty-five (35 Housing Projects in the city of which fourteen (14) housing project sites with 3,415 units have already been completed, while twenty-one (21) housing project sites with 3,014 units are at various stages of development.

*Table DS-44 Housing Projects, QC: as of June 2019*

<b>COMPLETED AND ON-GOING PROJECTS</b>							<b>35</b>			
❖ On-site Projects							29			
❖ Off-site Projects							6			
❖ Completed Projects (before June 30, 2019)							14			
❖ On-going Projects (beyond June 30, 2019)							21			
<b>TOTAL NUMBER OF UNITS</b>							<b>6,427</b>			
❖ Developed lots only							301			
❖ Socialized one-storey rowhouse units							1,091			
❖ Socialized two-storey walk-up units							1,180			
❖ Socialized three-storey walk-up units							3,600			
❖ Economic units							255			
<b>PROJECT STATUS AS OF MARCH 2019</b>										
❖ Completed units							<b>3,415</b>			
❖ Units in near completion							93			
❖ Units under construction							881			
❖ Units for construction							1,496			
❖ Units for bidding							241			
❖ Developed lots - under Direct Sale Program							301			
Proj	Lot	Previous Owner	Lot Area (sq. m.)	Mode of Acq	Location	Developer	Number of Units			Status
							Total	No.	Unit Desc	
1 (Off)	Lot 9-B Psd 00- 036995	Fermina S. Oviedo	15,561	Direct Sale	Molave St., Bgy. Payatas	Land: Solid Rock Const. & Dev't Corp Housing: MOA with Habitat for Humanity	355	21	Developed lots	100% completed
								190	Socialized Rowhouse	
								144	Socialized Condominium	
2 (On)	Lot 614 & Lot D (LRA) Psd- 384988	Ofelia Arce Property (conveyed to LGU-QC)	48,876	Conveyance thru MOA	Bgy. Kaligayahan	Land & Housing: MOA with Phinma Property Holdings Corp. & Atty. O. Arce	1,118	40	Developed lots	100% completed
								703	Socialized Rowhouse	
								375	Socialized Condominium	

Proj	Lot	Previous Owner	Lot Area (sq. m.)	Mode of Acq	Location	Developer	Number of Units			Status
							Total	No.	Unit Desc	
3 (On)	<b>Lots 36, 37 &amp; 38 Pcs-00-014047</b>	R.P./DENR	4,436	under MOA	Banana Island, Burolo & Libis area, Bgy. Escopa II	Land & Housing: MRB II Const. Corp.	104	104	Socialized Rowhouse	90% completed
4 (On)	<b>Lot 644-A-7-D (LRC) Psd-32238</b>	Mariano Tiong	9,200	Expropriation	Limqueco Road, Bgy. Culiati	Land: Diadema Enterprises Housing: Habitat for Humanity Philippines	266	266	Socialized Condominium	90% completed
5 (On)	<b>Lot 12 Pcs-2491</b>	Magnolia W. Antonino	10,903	Direct Sale	Madyaas Road, Bgy. Payatas	Land: Solid Rock Const. & Dev't Corp. Housing: Habitat for Humanity Philippines	204	124	Developed lots	90% completed
							80	Socialized Rowhouse		
6 (On)	<b>Conso of Lots 8 and 16, Blk 12 and Road Lot 11 (LRA) Pcs-12376</b>	LGU-QC (formerly B.C. Regalado & Co., Inc.)	16,890	Donation	Chestnut St., Bgy. Fairview	Land & Housing: MPM Builders	224	116	Developed lots	100% completed
								108	Socialized Rowhouse	
7 (On)	<b>Lot 3 Block 1 Psd-0062447</b>	Housing & Urban Renewal Authority	1,872	Conveyance	J.P. Burgos St. PUD Site, Bgy. Escopa III	Land & Housing: MRB II Const. Corp.	84	84	Socialized Condominium	100% completed
8 (On)	<b>Lot 176-A-8 Psd-34977</b>	LGU-QC (formerly Bienvenido Tan property)	1,973	Donation	Int. King Michael St., Bgy. Bagbag	Land: ARV Construction & Supply, Inc. Housing: Compact Builders	105	105	Socialized Condominium	100% completed
9 (Off)	<b>Lot 109 Blk 1 Psd-13199 &amp; Lot 2-B Psd-24313</b>	Rodolfo V. Quizon	4,238	Direct Sale	Nenita Ext., Bgy. Gulod	Land & Housing: Sold Rock Development & Housing Corporation	192	192	Socialized Condominium	100% completed
10 (On)	<b>Lot 13 Blk. 4 (LRC) Pcs-941</b>	LGU-QC (formerly Mariano Tancinco Property)	1,286	Donation	Buenamar St., Bgy. Novaliches Proper	Land & Housing: Rosand Builders	63	63	Socialized Condominium	100% completed
11 (On)	<b>Lot 85-A-1-C Psd 007404 030208-D</b>	G.B. Francisco, Inc.	877	Direct Sale	Sarmiento St., Bgy. Sta. Monica	Land & Housing: Rosand Builders	42	42	Socialized Condominium	100% completed

Proj	Lot	Previous Owner	Lot Area (sq. m.)	Mode of Acq	Location	Developer	Number of Units			Status
							Total	No.	Unit Desc	
12 (Off)	<b>Lot 161-New-C-3 Psd-2110</b>	Precita & Eleazar Biglang-awa	4,000	Direct Sale	SB Diversion Road, Bgy. Nagkaisang Nayon	Land: Grandeur Construction Housing: Vibrant Realty Inc.	138	138	Socialized Condominium	100% completed
13 (On)	<b>Lot 176-A-16 Psd-23748</b>	Horacio Castillo	2,584	Direct Sale	King Christopher St., Kingspoint Subd. Bgy. Bagbag		66	66	Socialized Condominium	30% completed
14 (On)	<b>Lots 25 &amp; 26 Fls-2696-D</b>	G.B. Francisco, Inc.	1,633	Direct Sale	Sta. Barbara St., Bgy. Gulod	Land & Housing: Centiare Const. & Trading Corp.	69	69	Socialized Condominium	30% completed
15 (Off)	<b>Lot 554-B-4-D (LRC) Psd-270021 &amp; Lot 596-B (LRC) Psd-99855</b>	A.O. Knitting Mfg. Co., Inc.	19,893	Direct Sale	Richland Drive, Bgy. Sauyo	Land & Housing: Persan Construction, Inc.	777	621 156	Socialized Condominium Economic Condominium	30% completed 100% completed
16 (Off)	<b>Lots 1186-A, 1186-B, 1186-C &amp; 1186-D Psd-19166</b>	Prescilla Arce	7,164	Direct Sale	SB Diversion Road, Bgy. Nagkaisang Nayon	Land & Housing: Mascot Corporation	210	111 99	Socialized Condominium Economic Condominium	100% completed
17 (Off)	<b>Lot 2-A-1-A</b>	Wright Park Residences & Dev't Corp.	7,884	Under MOA	Bgy. Payatas	Land & Housing: WPRDC	234	234	Socialized Condominium	70% completed
18 (On)	<b>PWD Housing</b>	R.P./DENR	5,083	Under MOA	NVRC Compound, Bgy. Escopa III	Land: R.S. Gatbonton Construction Housing: Habitat for Humanity Philippines & Gawad Kalinga	130	130	Socialized Condominium	85% completed
19 (On)	<b>Lot 797-C-5 Psd 21048</b>	Bangko Sentral ng Pilipinas	10,000	Direct Sale	Luzon Ave., Bgy. Matandang Balara	Land & Housing: Solid Rock Construction Corporation	342	342	Socialized Condominium	50% completed
20 (On)	<b>Lot 58 SWO-16801 Plan RS-00-001500</b>	Pedro Aldana Garcia	2,980	Direct Sale	Villa Beatriz Ext., Bgy. Matandang Balara	Land & Housing: Compact Builders	135	135	Socialized Condominium	60% completed

Proj	Lot	Previous Owner	Lot Area (sq. m.)	Mode of Acq	Location	Developer	Number of Units			Status
							Total	No.	Unit Desc	
22 (On)	<b>Lot 176-C-6-B Psd 257321</b>	Bartolome Property	2,700	Direct Sale	Damong Maliit, Bgy. Nagkaisang Nayon	Land & Housing: Amaranth Const. Corp.	82	82	Socialized Condominium	100% completed
23 (On)	<b>Lot 3 Blk 3 Psd 63164</b>	Carmelo Barbero	1,058	Forfeiture thru Auction Sale	Hilltop Subd., Bgy. Greater Lagro		48	48	Socialized Condominium	80% completed
24 (On)	<b>Lot 30 Block 30 Pcs 04-000208</b>	Royal Monarch Corp.	1,288	Forfeiture thru Auction Sale	Banaba Dulo, Bgy. Kaligayahan	Land & Housing: Rockford Dev't Corp.	54	54	Socialized Condominium	100% completed
25 (On)	<b>Lot 750-A-3 Psd 51165</b>	Inductivo Bartolome	1,000	Forfeiture thru Auction Sale	Bgy. San Agustin		54	54	Socialized Condominium	80% completed
26 (On)	<b>Lot 681-D-12 Psd 28126</b>	Ramon Escarilla	1,000	Forfeiture thru Auction Sale	Bgy. Culiati		777	14 12	Socialized Rowhouse Socialized Condominium	100% completed
27 (Off)	<b>Lot 1 to 6 (LRC) Pcs-27767</b>	Benitez Property	1,668	Direct Sale	Sta. Barbara St., Bgy. Gulod		60	60	Socialized Condominium	60% completed
28 (On)	<b>Lot 178-B-4 (LRC) Psd 198561</b>	Ernesto Chan et. Al	4,646	Direct Sale	Damong Maliit, Bgy. Nagkaisang Nayon		204	204	Socialized Condominium	65% completed
29 (Off)	<b>Lot 735-Z Fls 2563-D</b>	Erlinda M. Saludes et al	2,300	Direct Sale	Placida St., Bgy. Gulod		99	99	Socialized Condominium	60% completed
30 (On)	<b>Lot 1 Blk 1 (LRC) Psd 70489</b>	Jesus Lagman	1,169	Forfeiture thru Auction Sale	Bgy. Sta. Lucia		30	30	Socialized Condominium	30% completed
31 (On)	<b>Lots 1, 2 &amp; 3 (LRC) Pcs-31210, L 7-K-2-C Psd-26193</b>	John KC Ng	5,503	Direct Sale	Cambridge St., Bgy. E. Rodriguez		276	276	Socialized Condominium	10% completed
32 (On)	<b>Lot 3-A Psd-00-093861</b>	Sto. Cristo Resources, Inc. Pangilinan	3,864	Direct Sale	Sto. Cristo St., Bgy. Balingasa		174	174	Socialized Condominium	20% completed
33 (On)	<b>Lot 1023-B Psd 38414</b>	Francisco C. Reyes	2,000	Direct Sale	Bgy. Baesa		108	108	Socialized Condominium	10% completed



### 3.5.4 Affordability Levels

#### Household Income and Expenditure

The PSA conducts the Family Income and Expenditure Survey (FIES) every three years. From 1985 to 2000, the data released contained city disaggregated data on income and expenditure. However, in the years 2003, 2006, 2012 and 2015, the FIES indicates results only for NCR and the Philippines. However, based on the 2009 Final Results of Family Income and Expenditure Survey (FIES) - Small Area Estimates, Quezon City families registered an estimated monthly income of Php29,441.00 which is 99.2% of MM, or 171.5% of the entire Philippines, and monthly expenditure of Php26,169.00 which is 101.6% of MM, or 178.4% of the entire Philippines. (See Table DS-45)

**Table DS-45: Average Household Income and Expenditure, QC, NCR and Philippines: 2000-2012**

Year	Income			Expenditure		
	QC	NCR	PH	QC	NCR	PH
2015	★★★	35,417	22,250	★★★	29,083	17,917
2012	★★★	31,583	19,583	★★★	27,083	16,083
2009	29,441	29,670	17,167	26,169	25,747	14,667
2006	★★★	25,916	14,394	★★★	21,500	12,263
2003	★★★	22,204	12,324	★★★	18,159	10,308
2000	32,757	25,025	12,093	29,577	22,204	9,903

Source: NSO, PSA, FIES

★★★ No city disaggregation for year 2003, 2006 and 2012

#### Potential Percentage of Income Available for Housing

On the average, the Metro Manila family is earning Php35,417.00 per month and is spending Php29,083.00 in 2015. A major portion of income is spent on basic needs such as food, shelter, transportation and utilities including water, electricity, gas and other fuels.

In the pattern of Total Family Expenditure Item in the NCR for 2012, the percentage spent on housing and utilities constitute 27.0% or Php7,852.00 which is 6.9% higher than that of the entire country. (See Table DS-46)

**Table DS-46: Percent Distribution of Total Family Expenditure by Expenditure Group, Philippines and NCR: 2015**

Expenditure Item	Philippines	NCR
Food expenditures:	41.9	36.3
<i>Foods consumed at home</i>	33.7	25.0
<i>Food regularly consumed outside the home</i>	8.2	11.3
Alcoholic beverages	0.5	0.4
Tobacco	1.1	0.8
Clothing and footwear	2.4	2.0
Furnishings and Routine Household Maintenance	2.5	2.8
Health	3.7	2.9
House Rent/Rental Value	12.2	18.2
Water, Electricity, Gas and Other Fuels	7.9	8.8
Transportation	6.2	6.6
Communication	2.2	2.9

Recreation and Culture	0.8	0.8
Education	3.8	3.5
Accommodation Services	0.2	0.0
Miscellaneous Goods and Services	6.3	6.3
Durable Furniture and Equipment	2.5	1.5
Special Family Occasion	2.5	1.5
Other expenditures	3.1	4.6
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

□ *Non-essential expenditure items are potential sources which could be made available for housing: Alcoholic Beverages, Tobacco, Recreation and Culture, Accommodation services, Miscellaneous goods and services and Other Expenditures*

### **Housing Loans Available from the National Government**

Housing loans are facilitated through the Home Development Mutual Fund (HDMF) or Pag-Ibig Fund, Social Housing Finance Corporation (SHFC) and other in-house financing programs.

A basic loan package for a home unit involves:

Package Price	: Php 450,000.00
Cashout	: Php 10,000.00 (for miscellaneous expenses : Meralco, Maynilad, Annotations, Notary, Certified True Copy... etc.)
Loanable Amount	: Php 450,000.00
Payment Period (Max.)	: 30 Years
Age Limit (Max.)	: 70 Year Old

### ❖ **Individual Loans**

The following are available under the in-house Housing Loan Program of Pag-ibig Fund.

#### **1. End-User Home Financing Program**

- It doubles the loanable amount from Php3.0M to Php6.0M.
- Interest rate ranges for as low as 6.5% per annum from 11.5%.
- It applies risk-based interest rates.
- It includes adoption of a Borrowers Evaluation System to improve underwriting.

#### **2. Affordable Housing Program (AHP) / Abot-Kamay Pabahay Program**

- Designed for minimum wage earners and Overseas Filipino Workers (OFW), the AHP caters to the actual need of the borrower based on his capacity to pay.
- Loan amount is from Php450,000.00 up to Php750,000.00.
- Interest rate is as low as 3.0% (for monthly income of Php15,000.00 & below) with a monthly amortization of Php1,855.06 including MRI and Fire, and as high as 6.375% for monthly income of above Php15,000.00 and with a monthly amortization of Php2,745.03, including MRI & Fire.

#### **3. Institutional Loan Programs**

##### *Direct Developmental Loan Program*

- a) Developmental financing for developers under easier terms and conditions.
- b) Loan may be used for the development of residential subdivision or medium-rise buildings or for the construction of housing units.
- c) As of September 1, 2013, wholesale loan rates for (i) 1-year fixing is 6.125%, (ii) 2-year fixing at 6.750%, and (iii) 3-year fixing is 7.875%.

*Group Housing Loan Program (GHLP)*

- a) Engage the participation and involvement of project proponents, through land development and house construction on the land owned and provided by the project proponent.
- b) Units from the project to be financed shall be offered for sale to the project beneficiaries.

❖ **Community Mortgage Program (CMP)**

Under the Social Housing Finance Corporation’s (SHFC) Community Mortgage Program, the community or group mortgages are engaged and organized associations of residents of blighted/depressed areas are assisted to own the lots they occupy. This aims at providing residents security of tenure and eventually improve their neighborhood and homes to the extent of their affordability. The project covers three stages namely: land acquisition, site development/community upgrading and house construction. (www.shfc.gov.ph)

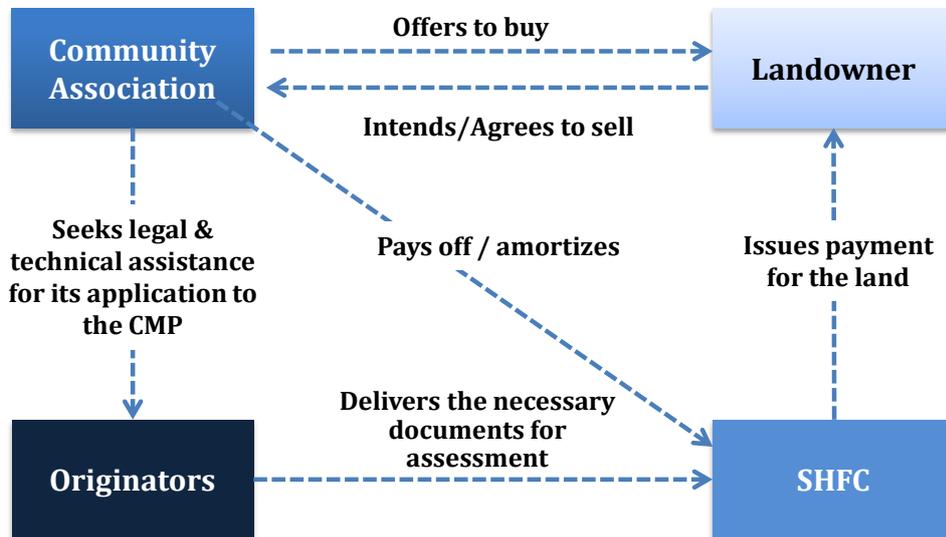


Figure DS-27: Framework for CMP Implementation

Revised loan entitlement amounts applicable for both Metro Manila and highly urbanized cities, and other areas, without distinction, have been increased as follows: (See Table DS-47)

Table DS-47: CMP Loan Windows

Purpose	Maximum Loan Amount	Monthly Amortization
Land Acquisition	100,000.00	685.30
Site Development / Community Upgrading	30,000.00	205.59
House Construction	120,000.00	834.60
<b>Loan Package</b>	<b>250,000.00</b>	<b>1,725.49</b>

Source: www.shfc.gov.ph

The CMP loan will bear 6% interest per annum based on the outstanding balance and will be payable over a maximum period of 25 years in equal amortizations.

**Table DS-48: CMP Subsidy Implementation**

Capital Subsidy	Technical Subsidy
<u>Terms of the Loan</u> <ul style="list-style-type: none"> <li>❖ 6% interest</li> <li>❖ Loan amortization payments (straight amount – 25 years to pay)</li> </ul>	<u>Technical Support:</u> <ul style="list-style-type: none"> <li>• Assistance in loan requirements compliance</li> </ul> <u>Capacity Building:</u> <ul style="list-style-type: none"> <li>❖ Training of CMP-Mobilizers on CMP Processes</li> <li>❖ Training of CA for CMP</li> </ul>

❖ **High Density Housing Program (HDH)**

The High Density Housing (HDH) Program was initiated in 2013 by the SHFC as a response to the Php50B Housing Program Fund of the Aquino administration for the ISFs residing along waterways and other danger areas in Metro Manila. The qualified beneficiaries were validated and certified by the Department of Interior and Local Government (DILG). (www.shfc.gov.ph)

The program enables the SHFC to extend financing assistance to organized communities in danger areas for the implementation of multi-storey housing projects in the National Capital Region (NCR). It adopts the CMP’s “Community Driven Approach” in creating the People’s Plan which will be the basis for their housing projects.

The loan will bear 4.5% interest per annum based on the outstanding balance and will be payable over a period of 30 years on the following amortizations, including MRI and fire insurance: Php1,072.86 during the first year, with an increase of 10% until the 11th year; Php2,782.71 from 11th year until the 30th year.

**Table DS-49: HDH Subsidy Implementation**

Capital Subsidy	Technical Subsidy
<u>Terms of the Loan</u> <ul style="list-style-type: none"> <li>• 4.5% interest</li> <li>• Graduated for the first 10 years and fixed amount starting on the 11th up to 30th</li> </ul> <u>Tenurial Arrangement</u> <ul style="list-style-type: none"> <li>• Usufruct on Land – to sell to the community when they are already capable</li> </ul>	<u>Technical Assistance Subsidy</u> Subsidy Fund (10% of the Project Cost) <ul style="list-style-type: none"> <li>• for taxes &amp; permits</li> <li>• for CSO service fees</li> <li>• for insurance</li> <li>• for payment of professional fees</li> </ul> <u>Capacity Building and Estate Management</u>

❖ **In-House Financing of LGU-QC**

Qualified beneficiaries for the said financing scheme are ISFs of on-site projects that are located along waterways, fire hazard and other blighted areas that were declared and approved by the Quezon City Council.

The loan will bear 5.1% interest per annum based on the outstanding balance and will be payable over a period of 30 years on the following amortizations: Php1,500.00 during the first year, with an increase of 10% until the 5th year; Php 2,500.00 from 6th year until the 30th year, exclusive of MRI and fire insurance.

## Local Housing Funds

### ❖ Idle Lands Tax

The annual budget of the city's housing program is limited considering the tremendous housing requirement of the city. The City Government is undertaking revenue generation measures within its power mandated by the Local Government Code of 1991. It has started collecting idle land tax in 2011, which is equivalent to 3% of the assessed value of all idle lands located along national roads, and/or 1% of the assessed value of all idle lands located in other areas which shall be in addition to the basic real property tax.

Paragraph “e”, Section 42, Article XI of RA 7279, states that funds for urban development and housing program may come from the proceeds from the Socialized Housing Tax and, subject to the concurrence of the local government units concerned, Idle Land Tax as provided in Section 236 of the Local Government Code of 1991 and other existing laws.

The City Government collected an annual average of about Php130.0M of idle land tax from 2011 to 2018.

### • Socialized Housing Tax

In addition, the City has also imposed the collection of the Socialized Housing Tax as provided for under Section 43 of R.A. 7279 or UDHA of 1992, Local Finance Circular No. 1-97 of the Department of Finance and thru Ordinance No. SP-2095, S-2011 of the Honorable City Council. Said tax is equivalent to one half percent (0.5%) on assessed value of all lands in Quezon City exceeding PhP100,000.00.

The City Government has started collecting the socialized housing tax in 2011, and an annual average of about P93.0M was collected up until to 2018.

**Table DS-42: Special Levy on Idle Lands and Socialized Housing Tax Collections (2011-2018)**

Year	Special Levy on Idle Lands	Socialized Housing Tax	Total
2011	69,867,732.51	-	69,867,732.51
2012	87,516,243.91	144,561,688.15	232,077,932.06
2013	90,417,551.47	152,460,627.57	242,878,179.04
2014	281,679,471.89	30,139,006.99	311,818,478.88
2015	113,880,247.83	-	113,880,247.83
2016	122,139,119.34	160,578,167.23	282,717,286.57
2017	164,079,974.84	129,221,444.57	293,301,419.41
2018	124,799,396.13	126,636,724.55	251,436,120.68
<b>TOTAL</b>	<b>1,054,379,737.92</b>	<b>743,597,659.06</b>	<b>1,797,977,396.98</b>
<b>AVE.</b>	<b>131,797,467.24</b>	<b>92,949,707.38</b>	

Source: Financial Accounts and Analysis Division, City Accounting Department

### ***Socialized Housing Special Account***

This special account was created by virtue of Ordinance SP-2226, S-2013 of the Honorable City Council, in which, all proceeds collected under the Quezon City Housing Programs such as CMP, Direct Sale, Socialized Housing Tax, Idle Land Tax, etc. are all deposited to be utilized solely for socialized housing purposes.

### ***Balanced Housing Development***

As provided for under Section 18 of R.A. 7279, the Program shall include a system to be specified in the framework plan whereby developers of proposed subdivision projects shall be required to develop an area for socialized housing equivalent to at least twenty percent (20%) of the total subdivision area or total subdivision project cost, at the option of the developer, within the same city or municipality, whenever feasible, and in accordance with the standards set by the Housing and Land Use Regulatory Board and other existing laws. The balanced housing development as herein required may also be complied with by the developers concerned in any of the following manners:

- a. Development of new settlement;
- b. Slum upgrading or renewal of areas for priority development either through zonal improvement programs or slum improvement and resettlement programs;
- c. Joint-venture projects with either the local government units or any of the housing agencies; or,
- d. Participation in the community mortgage program.

## **Resources**

### **1. Land Requirement and Inventory**

#### ***Land Area Needed***

The priority of this shelter plan is the delivery of socialized housing to the poor and low-income segment of the population. The basic assumptions employed in planning are as follows:

- 40-sq.m. gross area allocation for each household resettled in a socialized housing subdivision or resettlement site
- 1-hectare land allocation for every 450 households.

On top of the priority are the households that should be relocated from danger zones and the homeless consisting of 44,075 families. Assuming that 75% or 33,056 can be accommodated in a socialized housing or resettlement project and 25% or 11,019 will avail of Medium Rise Housing (MRH)/High Density Housing (HDH), an area of 156.71 hectares is required for them alone. The rest of the households within the housing backlog (assuming 28% of the doubled-up households and those with unacceptable housing units) need 23.69 hectares. Assuming 28% of the new households formed need 44.12 hectares. A total of 227.97 hectares is required to address the socialized housing needs due to housing backlog and population growth.

## 2. Infrastructure

The city government has consistently prioritized road construction and improvement to link communities and growth centers and make previously hard-to-reach areas accessible. It gives focus to road provision in establishing socialized housing projects.

Power, water and communication utility companies adequately serve the city. These service providers give assurance that they have the capability to supply the needs of the present and future population.

## 3. Financing

### *Funding Required*

The following assumptions are employed in estimating the funding requirement of the city's socialized housing program:

- Php250,000.00 cost allocation for every household resettled in a socialized housing or resettlement site
- Php 450,000.00 cost allocation for a household housed in the MRH/high density housing (HDH)

With the same assumption that 25% of the households to be relocated from danger areas to MRH/HDH and 75% to be resettled in resettlement sites with house and lot package, Php13.22B is required. For the rest covered by the housing backlog, the amount of Php3.05B is involved. With the assumption of 28% of the new households to be formed in 2019 to 2023 on the basis of 50% availing of socialized housing subdivision units and 50% accommodated in MRH/HDH, the housing project will require Php4.96B. The total amount needed to provide socialized housing is Php21.19B.

### *Possible Funding Sources*

- National Housing Assistance/Funding

The city's housing projects are tied up with the Social Housing Finance Corporation (SHFC) since land acquisition and project development are too costly for the city alone to finance. The Home Mutual Development Fund (HDMF) or the Pag-Ibig fund also provides such assistance.

- Bond Flotations

The 1991 Local Government Code has given local government units more authority to increase financial resources. It allows LGUs to create indebtedness and avail of credit facilities to finance infrastructure and other socio-economic development projects to include housing.

#### *Other funds sources of the City Government*

- LGU Budget for Housing

The annual budget of the city's housing program is limited considering the tremendous housing requirement of the city. The City Government is now undertaking revenue generation measures within its power mandated by the Local Government Code. It has started collecting the idle land tax, and imposed the 0.5% socialized housing tax.

- Public-Private Partnerships

Given the corporate power of the LGU's and their authority to generate and efficiently harness resource, LGUs can enter into partnerships with the private sector, landowners and private developers in the development of blighted properties close to their project areas. The benefit derived from this is that the removal of blight will greatly increase the value of their own properties.

### **3.5.5 Local Shelter Organizations**

Housing delivery by the City Government is done through a number of its offices and instrumentalities.

#### **Housing Community Development & Resettlement Department (HCDRD)**

The main office tasked with the provision of socialized housing is the Housing Community Development and Resettlement Department (HCDRD) (formerly Urban Poor Affairs Office) being the implementer of the several Community Mortgage Programs (CMP) and Direct Land Sale in the city. This office conducts survey of informal settlements and keeps the inventory of ISFs in the city. It organizes people's organizations and lends them technical and other assistance in upgrading their communities.

#### **Housing and Urban Renewal Authority (HURA)**

The Housing and Urban Renewal Authority (HURA) is also responsible for shelter delivery in Quezon City. It was created by virtue of City Council Ordinance No. SP-1236, S-2003 approved by Hon. Feliciano Belmonte, Jr. on 01 April 2003. As such, it was mandated to undertake and/or to promote the development of housing for marginal and low-income families and urban renewal and redevelopment in Quezon City. It is comprised of seven (7) Board of Directors with the City Mayor as the Chairperson of the Board. Its officers include the Head of the HURA as the President/General Manager, while the City Treasurer and the City Administrator act as Corporate Secretary and Corporate Treasurer, respectively.

#### **Local Housing Board**

Prior to the creation of HURA, the City Mayor approved City Council Ordinance No. SP-1111, S-2002 on 22 March 2002 which created the Quezon City Local Housing Board. It was mandated to formulate, develop and ensure the implementation of policies in the provision for housing and resettlement areas and the observance of the right of the underprivileged and homeless to a just and humane eviction and demolition. Convened on April 14, 2011, the Board is composed of the City Mayor as Chairperson; the Vice-Mayor as Vice-Chair; and five (5) representatives of duly accredited QC people's organizations (POs), two (2) representatives of

duly accredited QC non-government organizations (NGOs), five (5) members appointed by the Mayor, two (2) members representing the City Council to be elected by among themselves, Head of the QC Urban Poor Affairs Office (UPAO), now Housing Community Development & Resettlement Department (HCDRD), who shall also act as the Board Secretary, and representative from the Housing and Urban Development Coordinating Council (HUDCC) to be designated by the HUDCC Chair as members.

### **Task Force on Socialized Housing and Development of Blighted Areas**

In June 2010, the Special Task Force on Socialized Housing and Development of Blighted Areas was created thru E.O. No. 6, S-2010 which aims to implement the transformation of blighted areas into decent communities and provide appropriate assistance to the families who will be affected by the development. It consists of the Secretary to the Mayor as Chairperson and the Chief of Staff of the Mayor, Head of HCDRD, the City Engineer, City Planning and Development Officer, Head of the Social Services and Development Department (SSDD), and Head of Task Force for the Control, Prevention and Removal of Illegal Structures and Squatting (TF-COPRISS) as members. It is the driving force behind the creation of the new in-city housing community called "BistekVille" housing projects, with its aim of creating slum-free communities, transforming blighted areas within the city into well-organized housing projects, and providing decent and affordable housing to the city's ISFs in particular, those living along danger areas.

### **Task Force COPRISS**

The Task Force COPRISS is an ad hoc body reorganized thru E.O. No. 1, S-1996 acting as the anti-squatting group of the city government. It is responsible for removing new and on-going constructions and in providing manpower assistance during relocation operations.

### **Social Services Development Department (SSDD)**

The SSDD provides food and material assistance to affected families and coordinates the *Balik-Probinsya* Program during relocation.

### **Private Sector, NGOs and POs**

There is consensus among stakeholders that housing delivery is not an exclusive responsibility of the government or the private sector but rather a multi-sectoral concern that should also involve the community, non-government organizations and other stakeholders in the civil society.

POs and NGOs in Quezon City have demonstrated on countless occasions that they have the resources and capability to undertake community development initiatives. More than 400 POs and NGOs have secured accreditation with the City Council in order for the former to formally and actively engage themselves in the planning and implementation of development in the city. Representative from fifty of these organizations sit as members of the City Development Council (CDC).

The participation of NGOs in shelter delivery includes capacitating the community in self-organization and improving their living condition. The HCDRD lists the following among the NGOs that act as originators in CMPs

- Gawad Kalinga Foundation
- Habitat For Humanity
- Pusong Makabayan Foundation, Inc.
- Foundation for Development Alternatives, Inc.

- Universal Component Foundation
- Crown Circle Builders
- Kristong Hari Foundation
- Golden Grains Livelihood Foundation, Inc.
- Share Foundation, Inc.
- Welfare for the Community, Inc.
- Center for Urban Poor Services, Inc.
- Center for Housing and Human Ecology Development Foundation, Inc.
- Center for Housing Innovative and Component Services, Inc.

The private sector is a proven partner in community development. Efficient and endowed with great amount of resources, they have contributed immensely to the growth of QC. They express willingness to be key players in the delivery of housing.

### **3.6 SPORTS AND RECREATION**

A necessary feature of urban life is sports and recreation. City dwellers can satisfy their leisure and recreational needs to help them cope with the rigors of urban living. Areas for sports and recreation, therefore, provide opportunities for the tired and weary residents to rejuvenate and engage in active physical and athletic development.

#### **3.6.1 Outdoor Sports and Recreation Facilities**

The city-maintained Amoranto Memorial Sports Complex in District IV offers an outdoor sports experience for those who are looking for an activity outside the confines of a walled structure. The place consists of a velodrome, badminton and tennis courts, covered and open basketball courts, a swimming pool, shooting range, volleyball courts and a multi-purpose hall. In 2018, the construction of a four-storey multi-level Bautista Arena within the sports complex started which affected the shooting range, covered badminton court, tennis court and the two-storey multi-purpose hall. The arena is intended to serve as venue for basketball, concerts and other events as well as to house the function rooms, press rooms, office, lounge and VIP room.

Other sport facilities that are also available in the city but with limited access are three (3) private sport complexes like the renovated Smart-Araneta Coliseum, the Capitol City Sports Plaza and the QC Celebrity Sports Plaza. Several golf courses with driving range are also located in the city such as the Capitol Hills Golf and Country Club, Maru International Golf Range, Rod Taylor Sports Company, Inc., GPL International, Inc., the Veterans Memorial Golf Course and those situated inside Camp Aguinaldo in District III and Teresa Heights Subdivision in District II.

In 2018, there were 24 public swimming pools compared to 12 in 2015. Nine (9) of these pools are located in District V which has the most number of public swimming pools. Three are located in Bgy. Kaligayahan and two (2) are in Bgy. Greater Lagro, one each are found in Bgys. Fairview, North Fairview, Sta. Monica, and Nagkaisang Nayon. District III has five (5) swimming pools, three (3) in Bgy. Old Balara and one each are situated in Bgy. Loyola Heights; Bgy. White Plains. In District VI, there are a total of three (3) located in Bgy. Sauyo and two (2) are in Bgy. Culiati. Each of the other districts have two (2) swimming pools. All of these public swimming pools are city-owned except the one located in Balara Filtration Plant in Bgy. Old Balara which is owned by the national government.

In the community level, most of the city's barangays have at least one basketball court. In total, there are currently 190 covered basketball courts, 27 open courts and 9 half courts in 2018. These are usually located in the barangay's identified open space, near the barangay hall or parish church. These structures also serve as sites for other community activities and events such as *tiangge*, bingo socials, meetings and dialogues. Where there is available space, there are also tennis, badminton and volleyball courts that are put up in the barangay.

Apart from these, several subdivisions, particularly the more affluent ones, have their own swimming pools, parks and playgrounds and clubhouses.

For residents who may prefer the not-so vigorous activities, they can take delight in the city's various parks and playgrounds. There are 598 parks and playgrounds, 326 of which developed and partially developed. The three major parks consist of the Quezon Memorial Park and Circle which is being maintained and operated by the City, the Ninoy Aquino Parks and Wildlife under the Protected Areas and Wildlife Bureau (PAWB) of the Department of Environment and Natural Resources (DENR) and the La Mesa Eco Park managed by *Bantay Kalikasan*. The continuing improvement and development of the Quezon Memorial Circle (QMC) will entice more people to come and ultimately boost business and tourism industry in the city. As for the Ninoy Aquino Parks and Wildlife, its features include a lagoon, a mini amphitheater, a zoo and a botanical garden.

Parks are considered important recreational areas since they are accessible to all social and economic groups of the city's populace. Moreover, they offer various types of recreation catering to all ages such as bicycle lanes, picnic areas and promenades.

### 3.6.2 Indoor Sports and Recreation Facilities

The city is also home to numerous indoor sports and recreational facilities. In 2018, there are 938 registered private sports and recreation businesses and facilities, an increase of 67 or 7.69% from 871 in 2015. The figure includes 102 indoor sports facilities which consist of nine (9) bowling lanes; thirty-three (33) billiard pool halls; thirteen (13) badminton courts; thirty-one (31) swimming pools; seven (7) shooting ranges; four (4) tennis or squash courts; one (1) archery range; one (1) basketball court; and three (3) sports plazas. QC has 598 indoor amusement and kiddie centers which include 142 amusement centers and kiddie rides; 451 recreational facilities such as bingo halls, dance studios, videoke bars, OTBs, etc.; four (4) kiddie play stations; and one (1) learning and activity center. Other entertainments and recreations in the city include

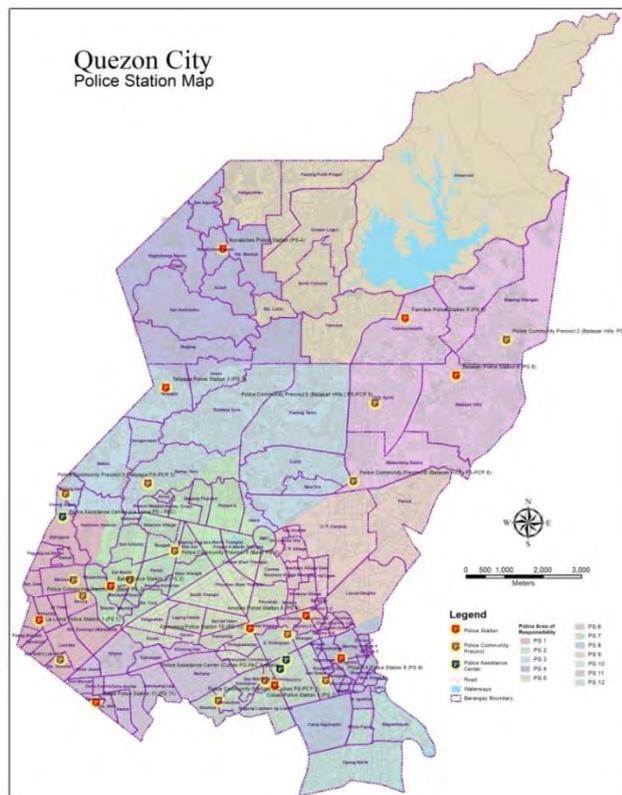


Figure DS-28: QC Police Stations, 2018

twenty (20) malls; sixty-two (62) cinemas and theaters; 155 physical fitness gyms; and one (1) indoor park.

## **3.7 PROTECTIVE SERVICES**

### **3.7.1 Police Services**

Quezon City was formerly under the jurisdiction of the Northern Police District which also covered Caloocan, Navotas, Malabon and Valenzuela. With the creation of the Central Police District's Quezon City Police District (QCPD) in October 1990, QCPD is mainly responsible for the maintenance of the peace and order situation of the entire Quezon City only. The QCPD Headquarter is located at Camp Karingal, Sikatuna Village in District IV.

The total police force of the QCPD as of 2018 is 5,139, an increase of 1,574 or 44.15% from 3,565 police personnel in 2015. The police manpower is comprised of 307 Police Commission Officers (PCOs), 4,666 Police Non-Commissioned Officers (PNCOs) and 166 Non-Uniformed Personnel (NUP).

Of the total police personnel, 84.76% (4,356) are males and 15.24% (783) are females. With the city's 2018 population of 3,040,672, police-population ratio is at 1:591. The standard police-population ratio is one (1) police to 500 people (1:500) for urbanized areas such as Quezon City. It was noted that the current police-population ratio has greatly improved compared to 1:824 ratio in 2015. To attain the ideal ratio, the city needs an addition of 942 policemen.

To complement, if not augment, the present police force, the city maintains some 2,148 Barangay Protection Security Officers (BPSOs) who are primarily tasked to maintain peace and order within the barangay through nightly "rondas", rescue operation assistance and disaster prevention and mitigation. These public safety officers are provided by the city with a Php600.00 monthly allowance.

The QCPD has twelve (12) police stations and twenty-seven (27) Police Community Precincts (PCPs). Aside from these, the QCPD has also established the Barangay Police Community Precincts (BPCPs) in each of the city's 142 barangays by deploying an average of three (3) police officers for each barangay. The BPCP's program implemented a system of community-oriented policing aimed to provide efficient police service to the people by protecting their rights and upholding the law. It is primarily bilateral, meaning, the police and the city residents alike are responsible for crime prevention. The police station-population ratio in 2018 was 1:253,289, which is way above the standard police station population ratio of 1:100,000 meaning one police station covers more than twice the population it has to ideally serve. With this situation, the city's required number of police station is 30 or a deficiency of 18 more police stations that need to be established.

For the last nine (9) years, the city donated 2,750 short/long firearms, 744 communication equipment which include mobile-base and handheld radios, 60 vehicles and 291 motorcycles. Aside from these, the QCPD were also provided with 149 computers, 500 battery packs, 3,600 helmet, 300 camera units, 3,809 bullet proof vests and 6,271 other equipment. The QCPD were also given 300 body-worn cameras and 42,400 ammunition, bullets and shells. The QCPD has 112 investigative equipment; eight (8) fingerprint kits, eight (8) investigative kits, seventy (70) first aid and responders' kits, one (1) video camera, 13 blotter, 13 police line and four (4) digital cameras being used by the police force in their conduct of investigation.

### 3.7.2 Crime Incidence

In 2018, the city's recorded crime incidence was slightly higher at 12,865 cases or 4.09% compared from the 12,359 reported cases in 2017. The reported crime volume in 2016 was 14,293. A decrease of 30.54% from the 2015 total crime volume of 20,578.

The city's average monthly crime rate therefore, in 2018 is 35.25% per 100,000 population which is higher compared to Metro Manila's average monthly crime rate of 28.15% per 100,000 population. Crime solution efficiency, on the other hand, increased from 41.64% in 2015 to 67.03% in 2018.

Data by classification of offense shows that of the 12,865 crime volume in 2018, 34.55% (4,445 cases) are considered as index crimes while more than half 65.45% (8,420 cases) are classified as non-index crimes. Crimes against persons and property are classified as index crimes which are sufficiently significant and occur with regularity to be considered as an indicator of the crime situation. Violation of special laws on estafa, vagrancy, trespassing, seduction, coercion, gambling, scandal are among those classified as non-index crimes.

In the last 4 years, the three (3) most prevalent crimes are theft, physical injury and robbery. The reported number of crimes in 2018 indicates that there were 1,838 (41.34%) cases of theft, 994 (22.36%) physical injury and robbery with 833 (18.74%). The number of reported rape cases was however, noted to have slightly decreased from 308 in 2015 to 298 in 2018. (See Table DS-51)

**Table DS-51: Reported Number of Crimes by Classification of Offense, Quezon City: 2015 – 2018**

Classification of Offense	2015		2016		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Crime Against Persons</b>	2,953	26.58	1,915	28.77	1,895	32.95	1,465	32.96
Murder	207	1.86	325	4.88	325	5.65	135	3.04
Homicide	77	0.69	21	0.32	54	0.94	38	0.85
Physical Injuries	2,361	21.25	1,371	20.59	1,308	22.74	994	22.36
Rape	308	2.77	198	2.97	208	3.62	298	6.70
<b>Crime Against Property</b>	8,155	73.42	4,742	71.23	3,857	67.05	2,980	67.04
Robbery	2,162	19.46	1,391	20.90	1,104	19.19	833	18.74
Theft	4,986	44.89	2,860	42.96	2,378	41.34	1,838	41.35
Carnapping	1,007	9.07	491	7.38	375	6.52	309	6.95
<b>TOTAL INDEX CRIMES</b>	11,108	53.98	6,657	46.58	5,752	46.54	4,445	34.55
Violation of Special Laws	4,303	45.44	3,927	51.43	3,413	51.66	5,859	69.58
Other Non-Index Crimes	5,167	54.56	3,709	48.57	3,194	48.34	2,561	30.42
<b>TOTAL NON-INDEX CRIMES</b>	9,470	46.02	7,636	53.42	6,607	53.46	8,420	65.45
<b>TOTAL CRIME VOLUME</b>	20,578	100.00	14,293	100.00	12,359	100.00	12,865	100.00
Crime Rate	743		481.15		411.22		423	

Solved Cases				
Crime Solution Efficiency	41.64	61.70	80.83	67.03
QC Average Monthly Crime Rate	61.92	39.19	34.27	35.25
Metro Manila Average Monthly Crime Rate	55.52	90.36		28.15

Source: Central Police District Command

### 3.7.3 Fire Protection and Prevention

Fire protection and prevention services are rendered by the Quezon City Fire District (QCFD) which has twenty-six (26) fire sub-stations in 2018 against only 24 fire sub-stations in 2015. These facilities are distributed in the city's six (6) congressional districts.

In 2018, there were 576 firefighters or an additional five (5) firemen from 571 firemen in 2015 and complemented by 35 civilians. There are also 47 fire aides that were provided by the city government. The present firemen-population ratio stands at 1:5278, way below the standard ratio of 1:2000. At the present ratio, the number of persons which a city fireman services is more than twice the number of

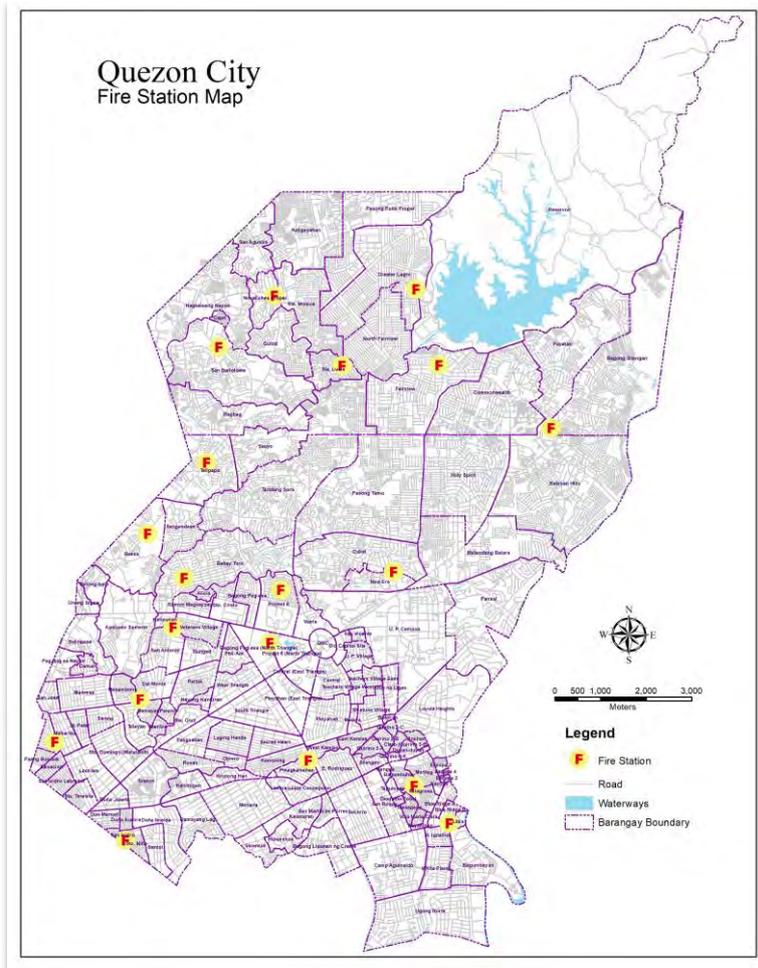


Figure DS-29: QC Fire Stations, 2018

people he can effectively serve. Clearly there is a shortage in the city's firefighting force of about 944 firemen. The city has 27 fire trucks, but only twenty-one (21) are serviceable, two (2) are under repair and four (4) are unserviceable. There are two (2) emergency vehicles, but only one is functional. The two (2) aerial ladders are both functional.

The 2018 fire-substation to land area ratio is 1:6 sq.km. against 1:7 sq.km. in 2015. Although there was a reduction in the fire-substation-land area ratio due to the existence of additional three (3) fire-substations from the previous number of said facility, the ratio is still below the standard fire-substation land area ratio of 1:4 sq.km. The required fire-substation in the city therefore is 40, thus with the existing 26 fire-substation, there is still an acute shortage of 14 fire-substations.

### 3.7.4 Fire Incidence

In 2018, the Quezon City Fire District responded to 1,034 fire incidences, a decrease of 214 incidences from the 2016 figure of 1,248. The amount of losses due to these fire incidences is registered at Php22,407,300.00. Out of said fire incidences, 21.57% (223) were structural in nature involving buildings, houses and other structures while 78.43% (811) are non-structural or involving grass, rubbish, forest, motor vehicle, among others. More than half (71.86%) of the causes of fire was electrical or those involving facilities of the Manila Electric Company (MERALCO) and National Power Corporation (NAPOCOR) such as electrical posts, primary and secondary distribution lines and transformers, while 28.14% of the fire incidences are non-electrical causes such as cigarette butts, gas tanks and stove. Majority of the fire incidences in the city occurred in District II, where a great number of informal settlers are located, particularly in Barangays Commonwealth and Batasan Hills. (See Table DS-52)

**Table DS-52: Number of Fire Incidence Reported and Responded to by the QC Fire Department, Quezon City: 2015 - 2018**

Fire Incidents By Type	2015		2016		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Causes of Fire</b>								
Electrical	541	52.32	733	50.73	705	67.20	743	71.86
Combustible/Heat Bonfire	10	0.97	2	0.16	7	0.68	17	1.64
Open Flames/Cooking			45	3.60	56	5.34	56	5.42
Cigarette Butts Smoke	177	17.12	198	15.87	130	12.39	142	13.73
Fireworks/Explosive Sparks					2	0.19	1	0.10
Flammable Liquids					4	0.38	2	0.19
LPG Tanks/Stove	20	1.93	34	2.72	54	5.15	17	1.64
Unknown/Others			236	18.91	91	8.67		
Unattended Cooking Stove	19	1.84						
Unattended Lighted Candle	14	1.35						
Under Investigation	253	24.47					56	5.42
<b>TOTAL</b>	<b>1,034</b>	<b>100</b>	<b>1,248</b>	<b>100</b>	<b>1,049</b>	<b>100</b>	<b>1,034</b>	<b>100</b>
<b>Motives</b>								
Intentional	13	1.26	4	0.32	6	0.57	4	0.39
Accidental	768	74.27			990	94.38	974	94.20
Under Investigation	253	24.47	1,244	99.68	53	5.05	56	5.41
<b>TOTAL</b>	<b>1,034</b>	<b>100</b>	<b>1,248</b>	<b>100</b>	<b>1,049</b>	<b>100</b>	<b>1,034</b>	<b>100</b>
<b>Nature</b>								
Structural	794	76.79	389	31.17	264	25.17	223	21.57
Vehicular			86	6.89	73	6.96	62	6.00
Grass			104	8.33	19	1.81	35	3.38
Chemical			2	0.16	52	4.96	16	1.55
Rubbish	174	16.83	93	7.45	104	9.91	119	11.55
Forest								
Ship								
Transformer explosion					1	0.10		
Post fire			240	19.23	207	19.73		
Secondary Wire					9	0.86		
Service Entrance					6	0.57		

Fire Incidents By Type	2015		2016		2017		2018	
	No.	%	No.	%	No.	%	No.	%
Electric Fan					10	0.95		
Tree Fire								
Transmission Line/High Tension								
Others (Electrical Fixture)	66	6.38	334	26.76	304	28.98	579	6.00
<b>TOTAL</b>	<b>1,034</b>		<b>1,248</b>	<b>100</b>	<b>1,049</b>	<b>100</b>	<b>1,034</b>	<b>100</b>
<b>Estimated Damages (in Pesos)</b>	<b>53,127,200.00</b>		<b>123,420,964.86</b>		<b>25,409,600.00</b>		<b>22,407,300.00</b>	

Source: QC Fire Department

### 3.7.5 Administration of Justice

The delivery and administration of justice at the local level is a collective responsibility of the Office of the City Prosecutor, the Metropolitan Trial Court and the Regional Trial Court.

The Quezon City Hall of Justice houses ninety-one (91) Prosecutor's Offices and sixty-one (61) court branches, thirteen (13) of which are Metropolitan Trial Court branches and forty-eight (48) are Regional Trial Court branches both presided over by an equal number of judges. Personnel in the courts and the Office of the City Prosecutor including city fiscals and judges total to 1,455, of which 41.72% are males (607) and 58.28% females (848).

In 2018, the Metropolitan Trial Court recorded 14,499 cases, a decrease of 4,705 cases or 25% from the 19,204 recorded cases in 2015 of which 7,539 cases (52%) were disposed. The Regional Trial Court, on the other hand, received and recorded 7,858 cases in 2018 for prosecution and disposed 5,264 cases (67.00%) which is higher compared to the disposed cases in the three (3) previous years. (See Table DS-53)

**Table DS-53: Recorded and Disposed Cases, Quezon City: 2015-2018**

Administration Of Justice	2015		2016		2017		2018	
	No.	%	No.	%	No.	%	No.	%
<b>Metropolitan Trial Court</b>								
<b>Recorded</b>	19,204		14,262		15,564		14,499	
<b>Disposed</b>	9,218	48.00	5,276	37.00	6,692	43.00	7,539	52.00
<b>Regional Trial Court</b>								
<b>Recorded</b>	9,525		10,871		3,367		7,858	
<b>Disposed</b>	5,905	61.99	3,587	33.00	1,649	49.00	5,264	67.00

### 3.7.6 Reformatory Institutions

The City has three (3) reformatory institutions, the Molave Youth Home, the Quezon City Jail and the Quezon City Drug Treatment and Rehabilitation (TAHANAN).

The Quezon City jail, located in a 0.2 has. land space within Bernardo Park Bgy. Pinagkaisahan along EDSA, can be considered as the most highly congested safekeeping institution in Metro Manila with male inmate's jail population of 4,234 as of 2018. This is a 47.17% increase from the 2,877 inmates in 2015. The existing city jail has fifteen (15) cells with a total floor area of 6,300 sq.m. Ideally, it has to accommodate 1,340 inmates only, following the standard space requirement per inmate of 4.7 sq.m. based on the Bureau of Jail Management and Penology (BJMP) manual. However, due to its limited space, the inmates are all housed in the said facility. Basic utilities such as water supply and sewerage facilities are inadequate resulting in unsanitary and unhealthful condition inside the jail. Similarly, Camp Karingal, where female inmates are housed is congested. In 2018, there were 1,049 female inmates, almost double from the 2015 data of 503 inmates.

The city jail is managed by 162 police officers assigned to guard the inmates and secure them during scheduled hearings. Thirty-seven (37) officers were assigned to escort the scheduled hearing of inmates. These jail guard officers had escorted during court hearings an average of 93 inmates per day. The present jail/custodial guard-inmate ratio is 1:26 which is way below the ideal ratio of 1:7, while escort-inmate present ratio is 1:114 as against the ideal 1:1. Current shortage of jail guards is 443.

The new Quezon City Jail is presently under construction by the BJMP within a portion or 2.4 has. out of the 3.4 has. city property located at Litex Road, Barangay Bagong Silangan.

The QC Drug Treatment and Rehabilitation Center (TAHANAN) located in Diamond Hills Subdivision, Bgy. Payatas offers services for the treatment of drug dependents. *Table DS-54* shows that in 2018, there were 396 clients (341 males and 55 females) served, an increase of 143 or 56.52% clients from 253 recorded clients in 2015. At the district level, it shows that 87 clients are from District V followed by District I with 80 and District IV with 75 clients. As to their civil status, 58.84% are single, 11.36% are married, 25% are with common-law partners while 4.80% are separated. The clients are accommodated in three (3), 2-storey wards with an approximate floor area of 182.62 sq.m. for each building. The center is being managed by 98 personnel.

**Table DS-54: Number of Drug Dependents/Clients Served at TAHANAN by District, Quezon City: 2015-2018**

DISTRICT	2015	2016	2017	2018
I	39	20	55	80
II	63	80	56	40
III	31	25	31	40
IV	45	33	52	75
V	43	62	68	87
VI	30	11	31	41
Non-QC residents	2	4	14	33
<b>Total</b>	<b>253</b>	<b>235</b>	<b>307</b>	<b>396</b>

Source: Vice Mayor's Office

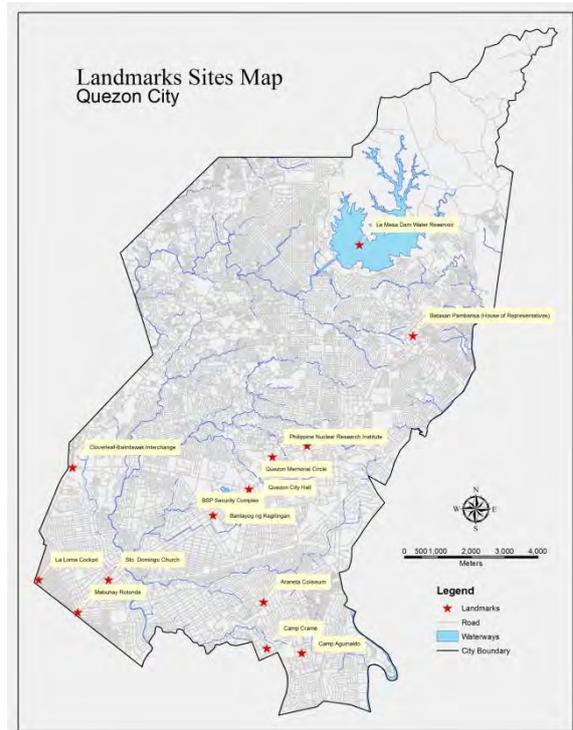
### 3.8 CULTURE

In spite of its young history, Quezon City, like other cities in the country, has many historical spots that speak of its rich heritage. There are twenty-four (24) historical sites and landmarks, foremost are the Santuario de San Pedro Bautista, also known as the San Francisco del Monte Church built in 1590 at San Francisco del Monte and the Church of the Holy Sacrifice at UP Diliman. Also situated at the heart of the city and adjacent to the City Hall compound is the towering Quezon Memorial Shrine, the site of several historic occasions such as the mass officiated by His Holiness, Pope Paul VI on November 29, 1970 and Pope John Paul II on February 18, 1981.

The City Museum located at the base of the Quezon Memorial Shrine houses the remains of the late President Manuel L. Quezon, aside from other memorabilia. Other historical spots are: (1) Gen. Fulton Monument in Barrio Bagong Silangan, where American General Lawton was actually killed by the Katipuneros; (2) Sitio Pugad Lawin situated on a rocky area near Project 8 where the Katipuneros led by Andres Bonifacio launched the revolution against the Spanish Colonial rule in 1896; (3) resting place of the remains of Melchora “Tandang Sora” Aquino at Banlat, Barangay Tandang Sora; and (4) Cloverleaf Road Complex, which situates the Balintawak monument in honor of Bonifacio is being converted into a tourist spot of the city; (5) Camp Aguinaldo and Camp Crame can both be considered historical sites for being the center of the EDSA Revolution last February 25, 1986.

To date, there are twenty-five (25) museums and art galleries in the city. Sixteen (16) are private museums and nine (9) are public museums which include the Armed Forces Museum, George Vargas Museum and the QCX Museum. The recently-opened QCX Museum is located at the eastside portion of the QC Memorial Circle near the Philcoa Entrance and is comprised of a five-building complex in a sprawling area of 20,000 sq.m. which includes Gallery A, B, C, Administrative Building and Business Center. It is the first of its kind, a socio-cultural interactive museum that showcases the city’s humble beginnings up to the present and encompassing its society and culture. It also aims for its visitors and guests to re-live and be entrenched in the “Quezon City Experience”.

Three (3) heritage houses are also found in the city. One is in Cubao named MIRA-NILA Heritage House while the Quezon Heritage House which was formerly located at No. 45 Gilmore St., New Manila was transferred and restored to its new location within Quezon Memorial Circle. Likewise, in honor of the late Pres. Corazon C. Aquino who was once a resident of the city, a replica of their residence at Times Street, Bgy. West Triangle was constructed near the Quezon Heritage House in QMC which is now being considered as tourist destinations of the city and cultural site that could be visited by the students in their educational trips.



Source: Quezon City Tourism Department

Figure DS-30: QC Landmarks , 2018

Inspired by Pres. Quezon's vision that Quezon City shall be the seat of the national government, the city has retained its importance and distinction as the main national government center for it is where the historic building of the Batasang Pambansa and other national government buildings such as the Department of Social Welfare and Development (DSWD) and Civil Service Commission (CSC) can be found. Other institutional buildings and offices located in the city are the Quezon City Civic Center, Novaliches District Center, Philippine Heart Center for Asia, Philippine Lung Center, the National Children's Hospital, Philippine Children's Medical Center (PCMC), East Avenue Medical Center (EAMC), the Atomic Energy Commission, Social Security System (SSS), Bangko Sentral ng Pilipinas (BSP), Quezon Institute (QI), the Philippine Orthopedic Center, La Mesa Dam and the Balara Filters Plant, and the University of the Philippines and the UP Oblation.

The Division of City Schools has also been very active in promoting activities that motivate pride of the nation's rich cultural heritage among residents as part of its on-going educational programs.

The Quezon City Tourism Department and the Quezon City Performing Arts of the city government are involved in actively enhancing and promoting culture and arts among city residents.



Economic Profile  
and Development

| 4

## CHAPTER 4: Economic Profile and Development

*The Economic Profile focuses on the sub-sectors on Labor and Employment, Family Income and Expenditure, Trade and Industry, and Tourism*

### 4.1 LABOR AND EMPLOYMENT

The Labor Force Survey (LFS) conducted quarterly every year by the Philippine Statistics Authority (PSA) has been the main employment data of the city. From the year 2004 onwards, city level data were no longer made available in the LFS. The increase in population over the years required increasing area samples in the survey. With no increase in the sample size, city level figures became less accurate with a wider margin of error, and therefore no longer reflected in the results. Due to the absence of city data and for the purpose of getting more updated labor and employment statistics, National Capital Region (NCR) figures have been used to represent those of the city. This is attributed to the large representation of the city's population and land area in the NCR. Based on the PSA official census result conducted in 2015, city population is almost one-fourth or 23% of the total population of the NCR and covers one-fifth or 20% of its land area. This provides a great influence in the regional economic status. Even from past LFS data, when city level data were still available, it could be noted that the city's figures were not far off or followed closely those of the region.

Quezon City's projected population in 2018 is 3,040,672 or 23% of the NCR's population based on official result as per PSA 2015 Census of Population. Also based on the official PSA results, the projected working age population of 15 years old and over is 2,153,455 or 70.8% of the entire city population.

The working age population is divided into:

1. ***The economically active population or those in the labor force.***

This group consists 60.3% (1,298,533) of the working age population composed of the **employed** and the **unemployed**. Using the NCR's rates, employment has been placed at 93.4% representing about 1,212,830 of the city's population which also includes 7.2% or 87,324 underemployed or those who are working less than the regular 8-hour-per-day and are still looking for additional work. There are more employed males (55.8% or 676,759) than females (44.2% or 536,071). The unemployment on the other hand, is placed at 6.6% or about 85,703 of the city's population. (*Table ED-1*)

2. ***The economically inactive population or those not in the labor force.***

The economically inactive or those not in the labor force, on the other hand, make up 39.7% or about 854,922 of the working age population. These are composed of students, housewives, retirees, the sick, PWDs, and others who are not looking for work.

**Table ED-1: Population by Employment Status, NCR/QC: 2018**

EMPLOYMENT STATUS	NUMBER		% SHARE	
<b>Working Age Population 15 years old and over</b>	<b>2,153,455</b>		<b>100%</b>	
Labor Force Population		<b>1,298,533</b>		<b>60.3</b>
- <b>Employed</b> (includes the underemployed of 7.2% (87,324))	1,212,830		93.4	
- <b>Unemployed</b>	85,703		6.6	
<b>Total</b>			<b>100.0</b>	
<b>Not in the Labor Force</b> (students, housewives, retirees, sick, PWDs)		<b>854,922</b>		

Source: Philippines Statistics Authority (PSA) Labor Force Survey

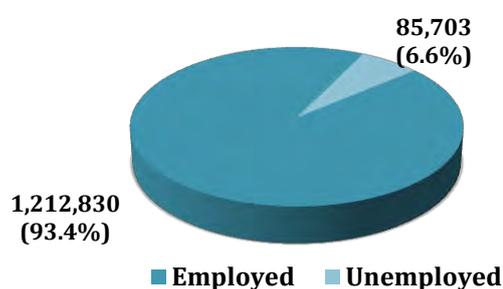
The employment rate is shown to be slightly improving every year. Underemployment, which is part of the employment figure, was favorably decreasing in the last five years, from 2011 to 2016. It however recorded a slight increase in 2017 despite the growing labor force and a decrease to 7.2% in 2018. (Table ED-2)

**Table ED-2: Labor Force Participation - Employment, Unemployment Underemployment and Not in the Labor Force, NCR/QC: 2010-2018**

Year*	Labor Force Participation		Employment		Unemployment		Under Employment		Not In The Labor Force	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
2010	1,215,998	62.4	1,076,158	88.5	139,840	11.5	128,063	11.9	732,717	37.6
2011	1,265,745	63.0	1,122,716	88.7	143,029	11.3	163,917	14.6	743,374	37.0
2012	1,303,012	63.1	1,164,893	89.4	138,119	10.6	167,745	14.4	761,983	36.9
2013	1,348,546	63.5	1,209,646	89.7	138,900	10.3	134,271	11.1	775,148	36.5
2014	1,407,399	64.4	1,263,844	89.8	143,555	10.2	136,495	10.8	778,003	35.6
2015	1,307,948	62.9	1,196,772	91.5	111,176	8.5	119,677	10.0	771,460	37.1
2016	1,323,291	62.9	1,234,631	93.3	88,660	6.7	107,413	8.7	780,510	37.1
2017	1,300,505	61.1	1,204,268	92.6	96,237	7.4	111,997	9.3	827,981	38.9
2018	1,298,533	60.3	1,212,830	93.4	85,703	6.6	87,324	7.2	854,922	39.7

\*2010 & 2015 figures are Official Census results, figures for other years are projected/estimates

Source: PSA Labor Force Survey



**Figure ED-1 : Labor Force 2018**

Being supported by the employed population are 1,827,841 **dependent population** composed of the following:

- ❖ those in the dependent age below 15 years old (887,216);
- ❖ the economically inactive (854,922); and,
- ❖ the unemployed persons (85,703).

Dependency ratio is computed at **1.5:1 (dependent:worker)** which means that there are about three dependents for every two (2) workers for a household with an average size of five (5) persons.

Still using PSA data using the NCR rate, in terms of Employment by Class of Worker, a big majority or about 81.51% (988,589) of those employed are (a) Wage and Salaried Workers or those who worked for private household, private establishment, worked for government or government controlled corporation and worked with pay in own family-operated farm or business. Figures for (b) Self-employed followed at 15.41% (186,898), (c) Employer in Own Family-operated Farm or Business at 1.73% (21,002) and (d) Worker Without Pay in Own Family-operated Farm or Business at 1.35% (16,341). There are more male Wage and Salaried Workers 57.90 % (702,229) than female 42.10% (510,601).

As to Major Occupation, the top 3 major occupations are persons employed in (a) service, shops and market sales workers with 19.54% (236,944), (b) Elementary occupations or laborers and unskilled workers at 17.36% (210,587), and (c) Managers which includes officials of government, special interest organizations, corporate executives, managers, managing proprietors and supervisors at 16.65% (201,899). By sex disaggregation, males formed the larger percentage group with 57.90% compared to females with 42.10%.

**Table ED-3: Number and Percentage Distribution of Employed Persons by Major Occupation and by Sex, Quezon City Using NCR Rate: 2018**

Major Occupation	Male		Female		Both Sexes	
	Number	%	Number	%	Number	%
Elementary Occupations (laborers and unskilled workers)	124,295	17.70	86,292	16.90	210,587	17.36
Service, Shops and Market sales workers	117,974	16.79	118,970	23.30	236,944	19.52
Plant and machine operators and assemblers	103,228	14.70	7,659	1.50	110,887	9.14
Managers (Official of government and special interests organizations, corporate executives, managers, managing proprietors and supervisors)	96,205	13.69	105,694	20.70	201,899	16.64
Craft and related trade workers	94,099	13.40	14,807	2.90	108,906	9.05
Clerks (clerical support workers)	66,010	9.40	87,823	17.20	153,833	12.68
Technicians and associate professional	48,454	6.90	37,785	7.40	86,239	7.11
Professional	46,347	6.62	51,571	10.10	97,918	8.07
Skilled agricultural workers (farmers), forestry workers and fishery workers (fishermen)	2,809	0.40	-	-	2,809	0.23
Armed Forces Occupation (special occupations)	2,808	0.40	-	-	2,808	0.23
<b>Total</b>	<b>702,229</b>	<b>100.00</b>	<b>510,601</b>	<b>100.00</b>	<b>1,212,830</b>	<b>100.00</b>

Based on a separate PSA survey in 2017, Business Establishments by Industry and Employment in NCR, as in the past, was shown to have the highest share (37.66%) in the country's total employment figure because the region has been the center of major business activities in the country. According to said survey, Quezon City registered the highest employment (708,369) or 24% of the total regional employment, followed by two (2) other NCR cities, Makati with 19.23% (567,358) and Manila with 10.60% (312,707) See Table ED-4.

**Table ED-4: Number and Percentage of Employed Persons, Philippines, NCR, NCR Cities: 2017**

Geographical Coverage	2017	% from RP	% from NCR
Philippines	7,832,089		
National Capital Region	2,949,627	37.66	
Quezon City	708,369	9.04	24.02
Makati City	567,358	7.24	19.23
Manila City	312,707	3.99	10.60
Pasig City	247,513	3.16	8.39
Taguig City	198,020	2.53	6.71
Mandaluyong City	180,902	2.31	6.13
Paranaque City	148,604	1.90	5.04
Pasay City	114,505	1.46	3.88
Caloocan City	107,213	1.37	3.63
Muntinlupa City	101,600	1.30	3.44
Valenzuela City	92,839	1.19	3.15
San Juan City	44,588	0.57	1.51
Las Piñas City	41,156	0.53	1.40
Marikina City	31,360	0.40	1.06
Malabon City	30,220	0.39	1.02
Navotas City	19,150	0.24	0.65
Pateros	3,523	0.04	0.12

The top five industries with highest employment in Quezon City are: Administrative and Support Service Activities with 219,891 (31.04%), Wholesale and Retail Trade and Repair of Motor Vehicles and Motorcycles with 143,406 (20.24%), Construction with 72,290 (10.21%), Accommodation and Food Services/Hotel and Restaurant with 59,588 (8.41%) and Manufacturing with 56,871 (8.03%).

**Table ED-5: Number and Percentage of Employed Persons by Industry, QC: 2017**

Industry Classification	Number of Employed Persons	%
Administrative and Support Services Activities	219,891	31.04
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	143,406	20.24
Construction	72,290	10.21
Accommodation and Food Service Activities	59,558	8.41
Manufacturing	56,871	8.03
Education	28,925	4.08
Information and Communication	25,006	3.53
Financial and Insurance Activities	20,750	2.93
Professional, Scientific and Technical Activities	18,739	2.65
Human Health and Social Work Activities	17,986	2.54
Other Service Activities	17,707	2.50
Transport and Storage	8,655	1.22
Real Estate Activities	8,653	1.22
Arts, Entertainment and Recreation	2,972	0.42
Water Supply, Sewerage, Waste Management and Remediation Activities	2,252	0.32
Electricity, Gas, Steam and Air Conditioning Supply	2,239	0.32
Agriculture, Forestry and Fisheries	1,694	0.24
Mining and Quarrying	775	0.11
<b>Total</b>	<b>708,369</b>	<b>100.00</b>

Source: Philippine Statistics Authority (PSA)

### ***The Informal Sector/Economy***

Due to limited employment opportunities, however, many are forced to engage in small-scale entrepreneurial activities which mostly unregistered, unregulated, and unmonitored. These are residents who engage in entrepreneurial activities working in full, part time or seasonal basis and are not usually paying taxes. Section 4 of the Quezon City Ordinance No. SP-2512, S-2016 known as “The Quezon City Informal Economy Ordinance” classified the informal economy workers into (1) home-based workers/own account/self-employed, (2) vendors, (3) transportation sectors, (4) non-corporate construction workers and (5) others such as street workers, waste workers and volunteer service workers in private and public. On the other hand, Section 3 (a) defines Informal Economy as all economic activities by workers and economic units that are in law or in practice not covered or insufficiently covered by formal arrangements and does not cover illicit activities. To uphold the rights, ensure the protection and promote the welfare of these workers, the city government enacted said ordinance by providing the basic framework in development programs for workers in the informal economy and creating the Informal Economy Development Council.

The Market Development and Administration Department (MDAD) had recorded 54 temporary vending sites, with 2,026 vendors in the city’s six (6) districts. The Tricycle Regulation Unit (TRU) under the Department of Public Order and Safety (DPOS) registered 152 Tricycle Operators and Drivers Associations (TODA) operating with 24,756 units and drivers with route measured capacity (RMC) approved by the Tricycle Franchising Board (TFB). The Public Employment Service Office (PESO), in coordination with the Department of Labor and Employment (DOLE), takes charge of documentation and monitoring of 779 marginalized/disadvantaged beneficiaries in the provision of emergency short-term wage employment assistance program through the Tulong Panghanapbuhay sa Ating Disadvantaged Workers (TUPAD).

### ***Overseas Filipino Workers (OFW)***

For better employment opportunities, many are forced to seek employment abroad. These Overseas Filipino Workers (OFWs) valuably contribute to the nations’ economic well-being. The OFW’s foreign currency remittances constitute a big part of the country’s Gross National Product (GNP). Based on Overseas Workers Welfare Administration (OWWA) membership as of 2018, OFWs from Quezon City ranked highest in the NCR with 193,101 (21.83%). Of these, 109,970 (56.95%) are males while 74,921 (38.80%) are females and 8,300 (4.30%) did not indicate sex characteristics.

By type, land-based OFWs show a bigger number with 149,052 (77.19%) compared to sea-based 37,570 (19.46%). Land-based and sea-based OFWs are largely dominated by males with 52.79% and 76.69% share, respectively.

According to records of the Philippine Overseas Employment Administration (POEA), in 2017, there were 11,540 OFW new hires from Quezon City deployed in foreign countries, 35.85% (4,105) are males and 64.93% (7,435) are females. There are more female 20.48% (36,305) OFWs than male 19.81% (20,720) OFWs from the NCR deployed in foreign countries. Majority of the OFWs were deployed in Middle East countries such as Saudi Arabia, Qatar, United Arab Emirates, Kuwait, Bahrain, Oman, and Jordan while others were deployed in Canada, Guam and other Asian countries. Contributing to the city’s unemployment problems are the returning OFWs with finished and non-renewed work contracts from abroad. Some have returned as they have

been maltreated and abused by employer, jailed for various reasons/offenses, or repatriated due to armed conflicts or civil war in the country where they were deployed.

According to job and skills, OFWs from QC deployed in foreign countries are comprised of (a) domestic cleaners and helpers (1,962 or 17%), (b) manufacturing laborers(783 or 6.79%), (c) waiters (418 or 3.62%), (d) dancers and choreographers (227 or 1.97%), (e) home based personal care workers (183 or 1.59%), (f) nursing professionals (182 or 1.58%), (g) musicians, singers and composers (151 or 1.31%), (h) health care assistants (127 or 1.10%), and others.

The city continuously undertakes various programs on employment generation, promotion and protection lodged with the PESO. Among these programs are: Jobs Fair/Jobs Referrals; Workers Hiring for Infrastructure Projects (WHIP); Youth Employment Programs Summer Job; TUPAD; National Skills Registry System, a comprehensive skill/job mapping and matching service facility; Retooling Assistance for Employment of Returning OFWs; creation of a Migrants Resource Center; and, profiling of OFWs from QC.

The QC Small Business Development and Promotions Office (SBDPO) offers entrepreneurship seminars and livelihood technology skills training particularly on production of processed foods, recycled paper-based products, cloth and personal care products, among others. It also facilitates a Micro-Credit Program called Puhunang Pangkaunlaran ng Sikap Buhay (PPSB), a livelihood assistance program that provides financial aid as well as Cooperative Development Program, which gives assistance in the formation of cooperatives or autonomous associations of persons who voluntarily collaborate for their mutual social, economic and cultural benefits. Economic benefits are distributed proportionally to each member's level of participation in the cooperative. The most common types are the multi-purpose, credit, service, consumer, transport, housing, federation, labor service, and producers cooperatives, and others including workers union cooperatives, insurance, marketing and cooperative bank. (See Table ED-6)

**Table ED-6: Registered Cooperatives by Type, Quezon City: 2018**

Type Of Cooperative	Number	%
Multi-Purpose	211	45.57
Credit	76	16.41
Service	42	9.07
Consumers	37	7.99
Transport	32	5.91
Housing	13	2.81
Federation	12	2.59
Labor Service	10	2.16
Producers	8	1.73
Others	22	4.75
<b>TOTAL</b>	<b>463</b>	<b>100</b>

Source: Cooperative Development Authority (CDA)

In the NCR, there are 2,261 cooperatives registered in the Cooperative Development Authority (CDA). Of which, 1,534 (67.85%) are actively operating while 727 (32.15%) are not actively operating but are still registered in the CDA. The 2018 records of the CDA reveal that there are 463 registered cooperatives operating in Quezon City. The city has the highest number of registered active and inactive cooperatives with 29.68% of the NCR's figure, followed by Manila (13.36%), Makati (8.89%) and Pasig (6.90%).

## 4.2 FAMILY INCOME AND EXPENDITURES

The Family Income and Expenditure Survey (FIES), a nationwide survey of households conducted by the PSA every three (3) years is the main source of data on family income and expenditure, which include among others, levels of consumption by item of expenditure as well as sources of income in cash and in kind. The results of the 2018 FIES provide information on the levels of living and disparities in income and spending patterns of Filipino families and were used as bases in the succeeding sections.

### 4.2.1 Family Income

In 2018, Filipino families had an average monthly income of Php26,083. This increased by 16.8% from the average monthly income of Php22,333.00 in the year 2015. On the other hand, families from the NCR earned an average monthly income of Php38,333.00 in 2018, or an increase by 8.23% from the 2015 figure of Php35,417.00.

In the absence of updated income statistics, NCR figures have been used to represent that of the city as its population makes up one-fourth of NCR's population. Even with past data, it could be noted that the city's figures were not far off with that of the region's figures.

**Table ED-7: Average Family Income, Expenditure and Savings  
Philippines, NCR and Quezon City: 2003 - 2018**

Year	Average Monthly Income (Php)			Average Monthly Expenditure (Php)			Average Monthly Savings (Php)		
	RP	NCR	QC	RP	NCR	QC	RP	NCR	QC
2018	26,083	38,333	***	19,917	30,750	****	6,166	7,583	***
2015	22,333	35,417	***	18,000	29,083	***	4,333	6,334	***
2012	19,583	31,583	***	16,083	27,083	***	3,500	4,500	***
2009	17,167	29,670	29,441	14,667	25,747	26,169	2,500	3,923	3,272
2006	14,394	25,916	***	12,263	21,500	***	2,131	4,416	***
2003	12,324	22,204	***	10,308	18,159	***	2,016	4,045	***

\*\*\* No city disaggregation for years 2003, 2006 and 2012 & 2015

Source: PSA-FIES

Families were grouped and ranked into per capita income deciles. The tenth or richest decile represents families belonging to the highest ten percent of the population in terms of per capita income, while the first or poorest decile represents families in the lowest ten percent.

In 2018, the average family income ranged from PhP 113 thousand for the first income decile or those considered the lowest 10 percent income group to PhP 867 thousand for the tenth decile or families belonging to the highest 10 percent income group.

In the same year, the average annual income of families in the tenth decile was about eight times of those in the first decile. This is narrower compared to the 2015 results wherein the average in the tenth decile was nine times of the average in the first decile. (Table ED-8).

Similarly for the NCR, the average annual family income in all deciles increased and ranged from PhP 211,000.00 for the first income decile to PhP 1.072 Million for the tenth decile. The average annual family income of the tenth decile was about 5 times that of the first decile in the year 2018.

**Table ED-8: Average Income, Average Expenditure and Average Savings of Families by Per Capita Income Decile, Philippines and NCR: 2018**

PER CAPITA INCOME DECILE	INCOME				EXPENDITURE				SAVINGS			
	PHILIPPINES		NCR		PHILIPPINES		NCR		PHILIPPINES		NCR	
	ANNUAL	MONTHLY	ANNUAL	MONTHLY	ANNUAL	MONTHLY	ANNUAL	MONTHLY	ANNUAL	MONTHLY	ANNUAL	MONTHLY
First Decile	113,000	9,417	211,000	17,583	109,000	9,083	212,000	17,667	4,000	333	(1,000)	(83)
Second Decile	144,000	12,000	265,000	22,083	130,000	10,833	244,000	20,333	14,000	1,167	21,000	1,750
Third Decile	168,000	14,000	305,000	25,417	147,000	12,250	275,000	22,917	21,000	1,750	30,000	2,500
Fourth Decile	197,000	16,417	337,000	28,083	169,000	14,083	294,000	24,500	28,000	2,333	43,000	3,583
Fifth Decile	225,000	18,750	375,000	31,250	188,000	15,667	315,000	26,250	37,000	3,083	60,000	5,000
Sixth Decile	263,000	21,917	411,000	34,250	216,000	18,000	337,000	28,083	47,000	3,917	74,000	6,167
Seventh Decile	309,000	25,750	471,000	39,250	247,000	20,583	377,000	31,417	62,000	5,167	94,000	7,833
Eighth Decile	370,000	30,833	522,000	43,500	284,000	23,667	411,000	34,250	86,000	7,167	111,000	9,250
Ninth Decile	476,000	39,667	636,000	53,000	351,000	29,250	488,000	40,667	124,000	10,333	148,000	12,333
Tenth Decile	867,000	72,250	1,072,000	89,333	545,000	45,417	734,000	61,167	322,000	26,833	338,000	28,167
<b>Ratio of Tenth Decile to First Decile</b>	<b>7.7</b>		<b>5.1</b>		<b>5.0</b>		<b>3.5</b>					

Source: Philippine Statistics Authority

Families in the poorest decile registered a monthly savings of Php333.00 and negative Php83.00 in the Philippines and NCR, respectively. Families in the richest decile registered monthly savings of Php 26,833.00 and Php 28,167.00 in the Philippines and NCR, respectively.

Still based on the 2018 FIES, the Gini coefficient, a measure of income inequality within a population, was estimated at 0.4267 for 2018, slightly lower than the 2015 Gini coefficient of 0.4438. A Gini coefficient ranges from 0 to 1, with 0 indicating perfect income equality among families, while a value of 1 indicates absolute income inequality. NCR's Gini Coefficient also decreased from 0.3908 in 2015 to 0.3520 in 2018.

**Table ED-9: Gini Coefficient, Philippines and NCR: 2003-2018**

Year	Philippines	NCR
2018	0.4267	0.3520
2015	0.4439	0.3908
2012	0.4605	0.4028
2009	0.4484	0.3953
2006	0.4580	0.3988
2003	0.4605	0.4021

Source: Philippine Statistics Authority

## Sources of Income

In terms of sources of income for families in the NCR and which would likely be representative of Quezon City, majority or 68.2% of the families rely on salaries/wages as their main source of income; 19.1% rely on other sources of income which include cash receipts from local sources and abroad, pension and retirement, dividends and investments, house rental, interest income, etc.; and the remaining 12.7% rely on entrepreneurial activities such as wholesale and retail trade, small-scale manufacturing, transportation and communication services, community, social and other services.

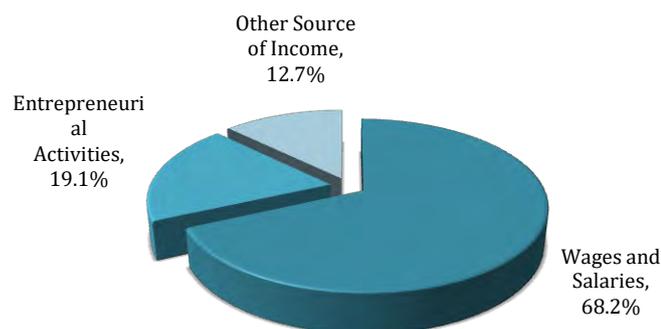


Figure ED-2 : Distribution of Families by Main Source of Income, NCR: 2018

#### 4.2.2 Family Expenditure

Filipino families in 2018 had an average monthly expenditure of Php19,917.00, an increase by 10.7% from the average monthly family expenditure of Php18,000.00 in 2015. On the other hand, the average monthly expenditure in NCR was registered at Php30,750.00 in 2018. It increased by 5.7% from the average monthly expenditure of Php29,083.00 in 2015.

In terms of pattern of expenditure, Filipino families spend most on (a) food (42.6% with 33.6% on foods consumed at home and 9.0% on foods consumed outside the home), (b) house rent/rental value (12.2%), (c) utilities (8.2%), (d) miscellaneous goods and services (6.6%), and (e) transportation (6.6%).

In the NCR, annual expenditures were allocated for (a) food (38.1%), (b) house rent/rental value (16.7%), (c) utilities (8.8%), (d) transportation (6.6%), and (e) miscellaneous goods and services (6.8%). Essential expenses on education and health come next to the top 5 expenditure groups both at the national and regional levels.

Table ED-10: Percent Distribution of Total Family Expenditure by Expenditure Group, Philippines and NCR: 2018

Expenditure Group	Philippines	NCR
Food expenditures	42.6	38.1
House Rent/Rental Value	12.2	16.7
Water, Electricity, Gas and Other Fuels	8.2	8.8
Miscellaneous Goods and Services	6.6	6.8
Transport	6.6	6.6
Education	2.6	2.8
Health	2.7	2.1
Furnishings and Routine Household Maintenance	2.3	2.2
Durable Furniture and Equipment	3.5	2.9
Special Family Occasion	2.8	1.9
Clothing and Footwear	2.5	2.1
Communication	2.2	2.8
Tobacco	1.2	1.0
Recreation and Culture	0.7	0.7
Alcoholic beverages	0.6	0.5
Accommodation Services	0.2	0.0
Other Vegetable-Based products	0.0	0.0
Other Expenditure	2.5	3.9
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>

Source: Philippine Statistics Authority (PSA)

## Food and Poverty Thresholds

Food threshold is the minimum income required to meet the basic food needs, satisfying the nutritional requirements set by the Food and Nutrition Research Institute (FNRI) to ensure that one remains economically and socially productive. On the other hand, poverty threshold is the minimum income required to meet the basic food and non-food needs such as clothing, fuel, light and water, housing, rental of occupied dwelling units, transportation and communication, health and education expenses, non-durable furnishing, household operations and personal care and effects.

In 2018, a family of five needed, on average, Php10,756.00 monthly to meet their minimum basic food and non-food needs (poverty threshold). On the other hand, a family of five needed, on average, Php7,553.00 per month to meet their minimum basic food needs (food threshold).

In the NCR, a family of five needed at least Php11,950.00 to meet their basic food and non-food needs and at least Php8,345.00 to meet their minimum basic food needs.

**Table ED-11: Poverty and Food Thresholds, Philippines and NCR: 2006, 2009, 2012, 2015 and First Semester of 2015 and 2018**

STATISTICS	2006	2009	2012	2015	2018
<b>Monthly Poverty Threshold for a Family of Five</b>					
Philippines	5,566	7,030	7,890	9,478	10,756
National Capital Region (NCR)	6,541	8,011	8,477	10,495	11,950
<b>Monthly Food Threshold for a Family of Five</b>					
Philippines	3,878	4,908	5,513	6,620	7,553
National Capital Region	4,568	5,594	5,919	7,329	8,345

Source: Philippine Statistics Authority

## Poverty

Poverty Incidence is defined as the proportion of families or individuals with per capita income less than the per capita Poverty Threshold to the total number of families or individuals. On the other hand, Subsistence Incidence is defined as the proportion of families or individuals with per capita income less than the per capita Food Threshold to the total number of families or individuals.

Among population, it was recorded that around 16.7% of Filipinos was poor in 2018 which translates to 17.7 million poor Filipinos while 5.2% of Filipinos were not able to meet their basic food needs translating to around 5.5 million food poor Filipinos in 2018.

In the NCR, poverty incidence among population was registered at 2.2% while subsistence incidence was recorded at 0.4% in 2018. An estimated 295,981 are considered poor in the NCR and about 53,814 are food poor.

Quezon City's poverty incidence was recorded at 2.4% while its subsistence incidence was recorded at 0.3%

**Table E-12 : Poverty Incidence NCR, Philippines & Quezon City: 2006-2018**

Statistics	2006	2009	2012	2015		2018
				Full Year	First Semester	First Semester
<b>Poverty Incidence Among Families</b>						
Philippines	21.0%	20.5%	19.7%	16.5%	22.2%	16.1%
NCR	2.9%	2.4%	2.6%	2.7%	4.6%	4.9%
Quezon City	3.2%	2.2%	1.9%	1.9%	3.9%	3.5%
<b>Poverty Incidence Among Population</b>						
Philippines	26.6%	26.3%	25.2%	21.6%	27.6%	21.0%
NCR	4.7%	3.6%	3.9%	3.9%	6.6%	6.6%
Quezon City	4.9%	3.3%	2.4%	2.9%	5.8%	5.0%
<b>Subsistence Incidence Among Families</b>						
Philippines	8.8%	7.9%	7.5%	5.7%	9.9%	6.2%
NCR	0.5%	0.3%	0.3%	0.4%	1.2%	1.6%
Quezon City	0.2%	0.3%	0.3%	0.1%	0.6%	0.9%
<b>Subsistence Incidence Among Population</b>						
Philippines	12.0%	10.9%	10.4%	8.1%	13.0%	8.5%
NCR	0.9%	0.5%	0.5%	0.7%	1.9%	2.0%
Quezon City	0.3%	0.5%	0.4%	0.3%	1.0%	1.1%

Source: Philippines Statistics Authority (PSA)

### Minimum Wage

The new minimum wage rates for agricultural workers, firms in the manufacturing sector with at most 10 workers, and firms in the retail as well as service sectors with at most 15 workers will earn at least Php500.00 daily, from the previous Php475.00. Non-agricultural workers, meanwhile, will have a daily minimum wage of Php537.00 from the previous Php512.00. Under Wage Order No. 22, the Php10.00 cost of living allowance (COLA) will also become part of the basic pay. Previously, the minimum basic pay ranged from P465.00 to P502.00, with an additional Php10.00 COLA. The integration of COLA in the basic pay means bigger computations for overtime pay and 13th month pay.

**Table ED-13: Current Daily Minimum Wage Rates  
National Capital Region (NCR), Per Wage Order No. NCR-22 (Effective: 22 November 2018)**

Sector / Industry	Basic Wage / Integration Of Cola	Basic Wage Increase	New Minimum Wage Rates
Non-Agriculture	Php 512.00	Php 25.00	Php 537.00
Agriculture	Php 475.00	Php 25.00	Php 500.00
Retail Establishments Employing 15 workers or less			
Manufacturing establishments regularly employing less than 10 workers			

## 4.3 FOOD SECURITY

Food Security“ exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”. The four (4) elements of food security are as follows: **1) Availability** - there must be adequate food supply to meet people’s needs; **2) Accessibility** - it considers people’s incomes/expenditures, markets and prices in achieving food security. **3) Utilization** - It is the way the body takes in the nutritional value of the food they consumed. **4) Stability** - it is having suitable food intake not only on a periodic basis but at all times.

The national goal is to end hunger for all Filipinos. The country is therefore undertaking substantial efforts to improve productivity of the sector. The major sources of food supply come from the country’s Agricultural Sector: *the agricultural, fisheries, aqua-culture and forestry products*. Insufficient food consumption, deficiencies, imbalances in the consumption, and the incapability of acquiring acceptable food result in hunger or malnutrition. However, food security is not all food but also having access to clean water sources and sanitation facilities.

With urbanization comes the challenges in food security. Metro Manila is a highly urbanized region in the country with Quezon City as one of its most populated cities. Food systems are required to ensure efficient and sustainable production, distribution and delivery of goods from the farm to the metropolis or to all its local units.

### 4.3.1 Food Availability

Being highly urbanized and with very minimal agricultural activities to readily supply food requirements, the city sources most of its food supply from nearby provinces. Agricultural produce is brought to the city in bulk, through trading areas or “bagsakan” and sold mostly to wholesale clients who then distribute said goods to other market outlets located in various areas in the city. The trading area of the city is the Balintawak Cloverleaf Market and the Mega Q-Mart located at EDSA. The distribution or retail outlets are: city’s eight (8) public markets, twenty nine (29) private markets, and thirty one (31) talipapa. There are also many other available suppliers of basic goods and commodities and distribution outlets such as supermarkets, mini-marts, and groceries strategically located in various areas of the city.

**Table ED-14: Number of Public-Private-Talipapa/Satellite Markets with Occupied and Vacant Stalls, Quezon City by District: 2018**

Type of Market	Number	Number of Stalls, by District						TOTAL
		I	II	III	IV	V	VI	
Public	8	52	-	727	2,512	-	-	3,291
Private	29	1,317	1,937	858	541	638	892	6,183
Talipapa/Satellite	31	248	110	33	16	372	-	779
<b>Total</b>	<b>68</b>	<b>1,617</b>	<b>2,047</b>	<b>1,618</b>	<b>3,069</b>	<b>1,010</b>	<b>892</b>	<b>10,253</b>

Source: Market Development and Administration Department (MDAD)

Through the years, the number of private markets has decreased considering the opening of the new and modern supermarkets and groceries such as SM Supermarket/Hypermarket, Robinson’s Supermarket, Savemore, Puregold, Robinsons, which are preferred by market-goers due to more convenient facilities that these offer. This has posed a challenge to many operators of private wet and dry markets.

Food distribution in the city is also channeled through numerous food outlets such as the neighborhood stores, restaurants and some 205 food establishments engaged in food processing and four (4) food manufacturing companies.

The city, in coordination with the national agencies including the Department of Trade and Industry (DTI), National Food Authority (NFA), Department of Agriculture (DA), National Meat Inspection Service (NMIS), among others, constantly controls and monitors operations on food supply and distribution in order to stabilize supply and demand.

### **On Rice**

Rice is considered to be a staple food of the Filipinos. The country is working to becoming self-sufficient in rice production for the coming years. The major source of rice distributed by the National Food Authority (NFA) particularly for the NCR are from top producing provinces in Luzon namely: Pangasinan, Nueva Ecija, Tarlac, Pampanga, Bulacan, Cagayan, Isabela and Mindoro. The country has been ranked as one of the top rice producers in Asia but data from the NFA indicate that in the past years when the country experienced deficit in production, rice was imported from Vietnam, Thailand and India to ensure stability of supply.

### **On Fish and Vegetables**

Sources of fish sold in markets, flea markets, supermarkets in the city mainly come from the Navotas Fish Port, as well as from Cavite, Batangas, Quezon and as far as the provinces in the Visayas and Mindanao.

Vegetables for the city are sourced mostly from the northern provinces in Luzon: Baguio, Pangasinan, Isabel, Bulacan, and Pampanga. These are brought to the city's major trading or "bagsakan" area at the Cloverleaf Balintawak Market which, through the years, became known as a trading site for agricultural produce coming in from the north. Other trading areas are the Mega Q- Mart. Other food retailers also go directly to the major sources for supply.

### **On Livestock and Poultry**

Supply of slaughtered meat is sourced from the city's slaughterhouses. The live animals like hogs, cattle, carabao, goats brought in for slaughtering in the city's abattoirs are mainly sourced from nearby provinces Bulacan, Nueva Ecija, Batangas and others. Some families are also engaged in backyard livestock or poultry raising as their main source of income. The city has three (3) existing slaughterhouses: Novaliches Slaughterhouse, the only NMIS-accredited slaughterhouse of the city, Labudahon Slaughterhouse and Mega Q- Mart Abbatoir, a temporary slaughterhouse. There are also the non-NMIS accredited small slaughterhouse of the "lechonan" operators at La Loma serving specifically the city's lechon industry requirements. Chicken or fowls are also sourced from nearby provinces and brought in to various public market stallholders for slaughtering.

While Quezon City does not have a city-owned slaughterhouse, all slaughterhouse operations in the city are monitored and inspected by its City Veterinary Department (CVD) to see to that operations are in accordance with national and local regulation.

Based on a market assessment study conducted by the city, the daily total production capacity from existing slaughterhouse as monitored by the CVD shows a big market for slaughtered meat products/services and a big deficiency in supply. (See Table ED-15). To cope

with the meat requirements of the city, many distributors and traders like public and private markets, supermarkets, groceries get their meat supply from other sources namely: (a) slaughtered meat from nearby cities and municipalities; (b) local processed meat suppliers/manufacturers namely Purefoods, Monterey, Magnolia, CDO, Bounty Fresh, and other meat companies; and, (c) imported frozen products with USA and Canada as the country's major suppliers.

*Table ED-15 : 2015 Daily Meat Demand and Supply of Quezon City*

Type	Average Daily Consumption*	**Meat Requirements / Demand**	Production Capacity
Hogs	0.05137	1,142 hogs	550(220 from lechoneros)
Cattle	0.00677	183 cattle	54
Goat	-	-	136
Chicken	0.03496	68,431 chicken	8,449

Sources: \* PSA Consumption Study; \*\* City Veterinary Department

### **Risk of Supply Disruption**

Food insecurity exists when there is the risk of supply disruption, a situation when people lack secure access to sufficient safe and nutritious food for normal growth and development and an active and healthy life. The factors that could affect food security and which can be grouped into economic, environmental, demographic, political conditions, and risks, hazards and shocks are: (a) poor quality of transport infrastructure, (b) climate change, (c) typhoon, (d) strong rains, disasters, (e) farmers' lack of lands to be irrigated, and (f) lack of income. The city undertakes programs on food availability such as urban farming, vertical gardening for public schools, barangays with open/vacant spaces.

#### **4.3.2 Food Affordability**

This category measures the ability of consumers to purchase food, their vulnerability to price shocks, and the presence of programs and policies to support them when shocks occur. The capacity to afford good-quality food without undue stress is a crucial aspect of food security. Food affordability considers first, whether an average individual in a country has sufficient means to purchase food, and second, the public structures that have been established to respond to personal or societal shocks. Together, these provide a holistic treatment of affordability, exploring elements of ability to pay and cost under a broad array of environmental conditions.

#### **Food Consumption as a Share of Household Expenditure**

This indicator captures the relative importance of food in household budgets. The lower the share of household expenditure on food, the easier it is for a household to cope with price increases and shocks.

Income plays an important role to food security. It is the determining factor of how much food can be bought by the consumer household. When consumers' income increase their choices expand to include food quality. Food spending as percentage share to total expenditures generally declines as income increases. In the Philippines, the average household earned Php

267,000, according to the 2015 FIES Survey. In the country, 41.9% of total spending is on food, while in the NCR, 36.3% of income earned by families are spent on food alone. NCR estimates are also used by QC in the absence of data in the PSA–FIES Survey. The large percentage being spent on food shows that many of the city’s families still belong to the low income group.

The QC Local Price Coordinating Council has been created for the proper efficient and effective enforcement of the “price act” by virtue of RA 7581, The Price Act of 1991, (*a national policy that ensures the availability of basic necessities/commodities at reasonable at all times*). It protects consumers on price manipulation and other illegal acts on profiteering by some businesses especially during times of emergency/calamities.

To make food supply from agricultural produce more affordable to residents, the city has tied up with some neighboring provinces such as Ilocos Norte and the DTI for food caravan projects, where farmers and food suppliers directly bring in their goods to the designated area in the City Hall for immediate selling to residents on a regular basis. This direct sale and omission of middleperson costs in the food supply system make the food supply readily available and more affordable to city residents. The city hopes to expand this program through coordination with sister cities.

#### **4.3.3 Food Security, Safe, and Quality**

Food security, safety and quality indicate conditions where foods are fit for human consumption, and food and water must be edible and potable at all times. Security and protection of people is basically dependent on the food we eat and water we intake. Comprehensive, intensive and effective food control system is essential to protect and safeguard the health, safety and welfare of the consumers. It is also critical to assure the security, safety and quality of foods entering the country and other local territories.

Government food regulatory agencies at the national and local levels are responsible for setting food safety standards, regulating food establishments, food business operators, and products they manufacture, offer for sale, or distribute. These agencies responsible for the conduct of inspections, implementation and ensuring compliance of laws on food security, safety and quality include:

##### ***National Agencies:***

- National Food Authority (NFA) *for rice, corn and other grains*
- National Meat Inspection Services (NMIS) *for meats*
- Bureau of Fisheries and Aquatic Resources (BFAR) *for fresh fish, and other sea foods including those grown by aquaculture*
- Bureau of Animal Industry (BAI) *for food derived from animals including eggs and honey production*
- National Dairy Authority (NDA) *for milk production and post- harvest handling*
- Bureau of Plant and Industry (BPI) *for plant foods*
- Philippine Coconut Authority (PCA) *for fresh coconut*
- Sugar Regulatory Administration (SRA) *for sugar cane production and marketing*
- Fertilizer & Pesticide Authority (FPA) *for pesticides and fertilizers used in the production of plants and animal foods*
- Others: Department of Health (DOH), Food & Drug Administration (FDA), Department of Trade and Industry (DTI), Food development Center (FDC) under NFA, Bureau of Agricultural and Fisheries standards (BAFPS), Bureau of Quarantine (BOQ), National Epidemiology Center (NEC), Research Institute of Tropical Medicine (RITM), National Center for Disease Prevention and Control (NCDPC), National Center for Health Promotion (NHCP)

**Local Government Agencies:**

- Quezon City Health Department (QCHD)
- Quezon City Veterinary Department (QCVD)
- Market Development and Administration Department (MDAD)

In Quezon City, some issues and concerns on food security and safety which are addressed are the following: sale of hot/double dead meats known as “botcha” in public and private markets; distribution and sale of expired bottled and canned goods and others.

#### **4.4 INDUSTRY AND SERVICE**

The city’s economy continues to be dominated by small to medium-scale business establishments engaged mostly in the distribution of finished products and in the provision of basic services.

**Table ED-16: Number of Registered New and Renewing Business Establishments, QC: 2010-2018**

Year	New	Renewal	Total	Growth Rate
2010	12,382	45,019	57,401	-
2011	12,765	48,567	61,332	6.85
2012	13,074	49,628	62,702	2.23
2013	13,417	51,098	64,515	2.89
2014	13,679	52,965	66,644	3.30
2015	12,107	54,989	67,096	0.68
2016	12,116	57,088	69,204	3.14
2017	12,368	59,961	72,329	4.52
2018	13,117	63,146	76,263	5.44

*Source: Quezon City Information Technology Development Department (QC-ITDD)*

As to industry type, registered businesses were classified using the Philippine Standard Industry Classification (PSIC), the classification also used by the national agencies. The PSIC provides three (3) major divisions: Agriculture, Industry and Services which are further subdivided into sub-classes/industries. Majority or about 91% of businesses belong to the Service Sector, while the Industry Sector has only 8.99% share of the total businesses. There are no business operations that are registered under the Agriculture Sector, which is the usual case in highly urbanized cities. Furthermore, majority of city’s businesses are under the micro- and small-size categories.

**Table ED-17: Number of Registered Business Establishments by PSIC Type, QC: 2013-2017**

INDUSTRY CLASSIFICATION	2013	2014	2015	2016	2017	% to TOTAL (2017)
<b>INDUSTRY</b>	<b>3,947</b>	<b>3,973</b>	<b>3,558</b>	<b>4,098</b>	<b>6,508</b>	<b>8.99</b>
Electricity, Gas, Steam, and Air Conditioning Supply; Water Supply; Sewerage, Waste Management and Remediation Activities	5	5	13	7	-	-
Construction	1,709	1,739	1,561	1,744	3,517	4.86
Manufacturing	2,233	2,229	1,984	2,347	2,991	4.13
<b>SERVICE</b>	<b>60,568</b>	<b>62,671</b>	<b>63,438</b>	<b>65,105</b>	<b>65,821</b>	<b>91.01</b>
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	27,922	28,306	25,044	28,721	17,423	24.09
Transport and Storage Information and Communication	1,872	2,063	3,514	2,423	6,126	8.47
Accommodation and Food Service Activities	4,318	4,567	4,758	4,794	3,719	5.14
Finance and Insurance Activities	2,855	3,058	3,318	3,087	8,553	11.83
Real Estate Activities; Professional, Scientific and Technical Activities; Administrative and Support Service Activities	17,461	17,870	15,973	18,204	11,262	15.57
Education	919	1,028	985	1,047	1,960	2.71
Human Health and Social Work Activities	1,274	1,378	1,572	1,388	3,220	4.46
Arts, Entertainment and Recreation; Other Service Activities	3,947	4,401	8,274	5,441	13,558	18.74
<b>Total</b>	<b>64,515</b>	<b>66,644</b>	<b>66,996</b>	<b>69,203</b>	<b>72,329</b>	<b>100.00</b>

Source: QC-Information Technology Development Department (QC-ITDD)

**Table ED-18: Number of Registered Business Establishments by PSIC Type and by District, QC: 2017**

Industry Classification	I	II	III	IV	V	VI	Citywide	Total
<b>INDUSTRY</b>	<b>1,072</b>	<b>1,028</b>	<b>783</b>	<b>620</b>	<b>801</b>	<b>793</b>	<b>1,411</b>	<b>6,508</b>
Electricity, Gas, Steam, and Air Conditioning Supply	-	-	-	-	-	-	-	-
Water Supply, Sewerage, Waste Management and Remediation Activities	-	-	-	-	-	-	-	-
Construction	511	559	495	376	437	496	643	3,517
Manufacturing	561	469	288	244	364	297	768	2,991
<b>SERVICE</b>	<b>8,697</b>	<b>11,497</b>	<b>13,377</b>	<b>7,975</b>	<b>5,125</b>	<b>4,352</b>	<b>16,798</b>	<b>65,821</b>
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	3,115	1,989	3,597	1,340	1,340	1,103	3,446	17,423
Transport and Storage	451	342	859	496	496	523	506	3,769
Information & Communication	73	83	155	217	217	236	1,446	2,357
Accommodation and Food Service Activities	817	115	647	569	569	195	1,024	3,719
Financial and Insurance Activities	1,261	946	2,989	329	329	528	1,773	8,553
Real Estate Activities	1,063	2,117	1,924	770	770	598	1,162	9,143
Professional, Scientific and Technical Activities; Administrative and Support Service Activities	108	268	147	303	303	445	585	2,119
Education	128	256	367	150	150	166	751	1,960
Human Health and Social Work Activities	338	1,087	323	198	198	88	805	3,220
Arts, Entertainment and Recreation	108	2,018	472	89	89	27	964	3,811
Other Service Activities	1,235	2,276	1,897	664	664	443	2,336	9,747
<b>Total</b>	<b>9,769</b>	<b>12,525</b>	<b>14,160</b>	<b>8,595</b>	<b>5,926</b>	<b>5,145</b>	<b>18,209</b>	<b>72,329</b>

Source: QC-Information Technology Development Department (QC-ITDD)

There has been an increasing trend in the number of registered businesses from 2010 to 2018. For 2018, registered businesses are broken down as follows – 13,117 new businesses and 63,146 renewing businesses totaling to 76,263, or a 5.44% increase from the previous year. The biggest increase of 6.85% in the number of registered businesses was in 2011. Average annual growth rate of registered business establishments on said period is computed at 3.63%.

While there is an average of 12,781 new businesses that come in and register, it could be noted that the average annual increase in the total number of businesses every year is only about 2,096 primarily attributed to the big annual number of non-renewing firms.

**Table ED-19: Number and Percentage of Non-Renewing Business Establishments, QC:2010-2018**

Year	New	Renewal	Total	Non-Renewal	% of Non-Renewed Firms from No. of Renewed Businesses	% Of Non-Renewed Firms from Total No. of Businesses
2009	10,474	43,277	53,751			
2010	12,382	45,019	57,401	8,732	19.40	15.21
2011	12,765	48,567	61,332	8,834	18.19	14.40
2012	13,074	49,628	62,702	11,704	23.58	18.67
2013	13,417	51,098	64,515	11,604	22.71	17.99
2014	13,679	52,965	66,644	11,550	21.81	17.33
2015	12,107	54,989	67,096	11,655	21.20	17.37
2016	12,116	57,088	69,204	10,008	17.53	14.46
2017	12,368	59,961	72,329	9,243	15.42	12.78
2018	13,117	63,146	76,263	9,183	14.54	12.04
<b>Average</b>	<b>12,781</b>	<b>53,607</b>	<b>66,387</b>	<b>10,279</b>	<b>19.37</b>	<b>15.58</b>

Source: QC-ITDD

Every year, some 15.58% of the total registered businesses do not renew their permits in the succeeding year. These non-renewing firms are those that have shut down operations due to bankruptcy, mismanagement, etc. or those that may have just continued operations without securing the required permits.

There are many businesses that may have shut down operations but have not registered or declared retirement with the city due to the tedious process with many documents to be submitted and high cost of retiring a business as back taxes are required to be paid. From July 2016 to December 2018, a total of 7,496 businesses or an average of 2,500 have declared retirement as per report from the Office of the City Treasurer.

**Table ED- 20: Number of Retired Businesses, QC: 2018**

Year	Full	Partial	Total
2016	914	14	928
2017	2,958	35	2,993
2018	3,523	52	3,575
<b>Total</b>	<b>6,995</b>	<b>101</b>	<b>7,496</b>

The city government is therefore undertaking numerous efforts not only in generating growth in new investments but also in maintaining, if not sustaining, growth of old investments thru more improved and systematic business registration processing, provision of tax incentives,

conduct of inspections with apprehension of operators without permits through Suyod Buwis, and better coordination with the barangays.

#### **4.4.1 Services**

As previously stated, data for the year 2017 show that majority or 91% of registered businesses belong to the Service Sector. The biggest shares are those business firms engaged in the Wholesale/Retail Trade activities which total to 17,423 or 24.09% of the total registered businesses. It is also the number one business revenue source of the city and shown to have the highest increase in number amongst all sectors in the last three (3) years. Such is evidenced by the existence of numerous shopping malls where many retail stores operate. These malls include the five SM Malls, the Ayala Malls (Trinoma, UP Town Center and Fairview Terraces), the Robinsons Mall (Fairview, Magnolia and Galleria) and Ever-Gotesco Mall, Eton Centris, Gateway Mall and Fishermall, as well as supermarkets, groceries and convenience stores located in various parts of the city. There are also home-based retail stores such as sari-sari stores, bakeries, carinderias mostly located in a high density residential areas. Many of these establishments engaged in the Wholesale/Retail Trade are concentrated in Districts I and IV.

The second major business type in the city is the Real Estate Activities; i.e. those engaged in leasing of real properties, consultancy and law offices, janitorial/messengerial/labor services, real estate broker and developer which registered a total of 9,143 and many of which are also from District I and IV.

Those engaged in Financial and Insurance Activities composed of 8,553 banks, pawnshops, money shops and financing and holding companies, etc., ranked third mostly found in District III and I. The other succeeding types include the following: Arts, Entertainment and Recreation (radio and TV networks, call centers etc.) with 3,811, Transport and Storage (transport companies/operators, trucking/hauling services, forwarding/freight services. Accommodation and Food Service activities mostly found in District I, III and IV at Banawe, Quezon and West Avenues, SM North, Trinoma, Cubao commercial areas, Eastwood City, SM Centerpoint and South Triangle areas totaling to 3,719. The increasing numbers of BPO locators in the city account for a big number of businesses in the category.

Closely following are Human Health and Social Work activities covering hospitals, clinics, laboratories, etc. with 3,220; and Professional, Scientific and Technical Activities; Administrative and Support Service Activities with 2,119, Information and Communication with 2,357 and lastly Education composed of the colleges, universities, vocational schools and other training institutions that recorded 1,960. Other Service activities consisting of beauty salons, dress shops, tailoring shops, have a total of 9,747 registered businesses.

#### **4.4.2 Industry**

The Industry Sector has only 8.99% share of the total businesses numbering to 6,508 in 2017. This is composed of Construction businesses like construction of buildings, site preparation and development, architectural and engineering works with 3,517; followed by the Manufacturing businesses which cover printing/publishing, assembly of motor vehicles, fabrication of metal, steel and aluminum products, etc.

It could be noted that the manufacturing industry in particular are no longer growing in number through the years due to a national policy on industry dispersal outside Metro Manila during the 70's. Manufacturing businesses and labor intensive, clean industries not harmful to the

environment may however need to be revitalized and encouraged to grow due to economic benefits that such industries entail. These are mostly located in the city's traditional industrial areas in Districts V and VI, the Balintawak and Novaliches area.

### Business Data from Other National Sources / Statistics

For comparative and information purposes on the city's standing in distribution and ranking of businesses in the country and in the region, the 2017 List of Establishments of PSA's Census and Technical Coordination Office showed that 20.99% of the total businesses in the Philippines are in the NCR. The top four (4) cities with the highest number of businesses in the region are: Quezon City (39,777), Manila (36,965), Caloocan (18,339) and Makati (16,304). Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles activities and Accommodation and Food Services Activities are two (2) businesses found dominating types similar to all four localities.

**Table ED-21: Number of Business Establishments by PSIC, Top Five (5) NCR Cities: 2017**

PSIC Classification	Philippines	NCR	QC	Manila	Caloocan	Makati	Valenzuela
Agriculture, Forestry and Fishing	9,209	223	45	11	28	33	23
Mining and Quarrying	930	89	8	3	3	31	-
<b>AGRICULTURE</b>	<b>10,139</b>	<b>312</b>	<b>53</b>	<b>14</b>	<b>31</b>	<b>64</b>	<b>24</b>
Manufacturing	117,035	19,826	3,782	2,725	2,874	1,013	2,283
Electricity, Gas, Steam, and Air Conditioning Supply	1,234	140	16	6		36	3
Water Supply, Sewerage, Waste Management and Remediation Activities	1,466	171	29	10		9	54
Construction	3,387	1,434	458	101	59	184	59
<b>INDUSTRY</b>	<b>123,122</b>	<b>21,571</b>	<b>4,285</b>	<b>2,842</b>	<b>2,949</b>	<b>1,242</b>	<b>2,417</b>
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	424,061	81,631	15,687	17,290	2	4,962	4,922
Transportation and Storage	8,496	3,157	386	1,068	14	260	160
Accommodation and Food Service Activities	121,821	25,118	5,701	4,648	2,100	2,210	1,626
Information and Communication	35,730	8,054	1,199	1,666	1,088	785	503
Financial and Insurance Activities	41,143	9,091	2,059	1,592	456	1,410	269
Real Estate Activities	9,748	4,238	782	671	177	881	293
Professional, Scientific and Technical Activities	16,885	5,332	1,087	696	201	1,304	119
Administrative and Support Service Activities	16,194	5,916	1,242	1,421	220	918	176
Education	17,504	4,239	1,183	661	371	322	149
Human Health and Social Work Activities	27,422	7,504	1,944	1,334	589	669	294
Arts, Entertainment and Recreation	14,956	2,356	525	425	238	120	125
Other Service Activities	57,500	15,615	3,644	2,637	1,573	1,157	756
<b>SERVICE</b>	<b>791,460</b>	<b>172,251</b>	<b>35,439</b>	<b>34,109</b>	<b>15,359</b>	<b>14,998</b>	<b>9,366</b>
Total	924,721	194,134	39,777	36,965	18,339	16,304	11,814

Source: 2017 List of Establishments, Census & Technical Coordination Office, Philippine Statistics Authority

From this same data, the locational quotient (LQ) was computed to get information on which industries of the city are more unique, higher concentrated, and have greater advantage over the region. The Service Industry, which include Wholesale and Retail Trade, Accommodation and Food Service Activities, Financial and Insurance Activities, Human Health and Social Work Activities is considered to be the city's highly concentrated industry.

Another business data source is the Business World Publication on the Top 1,000 Corporations in the Philippine Economy of 2017. The publication revealed that majority or about 75% of the top corporations in the country are located in the National Capital Region (NCR) with Quezon City (111 firms) ranking second to Makati City (with 223 firms) in terms of number of business establishments which mostly engaged in the wholesale and retail activities.

Several efforts have been undertaken to improve services. Processes on business registration has been simplified and made easier through the following:

- Facilitating the Business-One-Stop-Shop (BOSS) which had reduced time and requirements in securing business permits.
- Improving the payment system of taxes and fees thru the opening of more satellite offices, use of over-the-counter payments in accredited banks internet banking, automated teller machines and mobile money service providers.
- Operationalizing the Philippine Business Registry (PBR), first operationalized in QC, which utilizes an online integrated system connecting concerned national government agencies such as DTI, Bureau of Internal Revenue (BIR), Securities and Exchange Commission (SEC), Home Development Mutual Fund (HDMF), Social Security System (SSS) and Philippine Health Insurance Corporation (Philhealth) in the registration of new businesses.
- Passage/Implementation of the following:
  - *Ordinance No. SP-2219, S-2013*, the QC Economic Development Incentives Code of 2013. This aimed at encouraging and accelerating inflow of investments – the entry, expansion, modernization of the service and industry sectors in various areas of the city. It provided for the creation of an Economic Development and Investment Board (EDIB), the policy making body tasked to promote, regulate and monitor investments in the city; and a Local Economic Investment Promotions Office (LEIPO) that shall serve as the implementing arm/technical secretariat of the Board and coordinate the drafting of the QC Investment Priorities Plan and ensure compliance with the plan.
  - *Ordinance No. SP-2360, S-2014* Adopting a Magna Carta for Micro Small Business Enterprises in QC with the following development objectives:
    - Business environment (BE) – to create an enabling business environment that is conducive to the establishment, innovation, development and sustainable growth of entrepreneurship and micro and small enterprises (MSEs) in the city;
    - Access to Financing (A2F) – to enable MSEs and entrepreneurs to conveniently access appropriate and affordable financial services and assistance;
    - Access to Markets (A2M) - to enable MSEs and entrepreneurs to maintain their current markets and penetrate new markets; and,
    - Productivity and Efficiency (P & E) – to enable MSEs and entrepreneurs to be innovation-active and improve their capacities to develop, produce and deliver competitive products and services for the local, national and international markets.
  - *Ordinance No. SP-2364, S-2014* Creation of the QC Small Business Development & Promotion Office (QC-SBDPO) to serve as implementing arm of the Micro and Small Enterprises Development Council (MSED Council) and shall also function as the Technical Secretariat of the MSED Council.

### City plus factors

The city continues to attract investors with its various plus factors:

- *Expansive land* – It has 160 sq. kilometer urban landscape spread over one-fourth of Metropolitan Manila.
- *Reasonably priced real estate*. Real estate land value and taxes are lower compared to other cities providing cost-effective location.
- *Strategic location*. It is in the heart of Metro Manila and thus accessible from the major highways and thoroughfares and mass transit system of Metro Manila.
- *Young manpower pool*. About 1/3 of the city's population are less than 15 years old and strengthening this young population are the numerous colleges/universities and training centers which included the University of the Philippines, Ateneo de Manila, Miriam College.
- *Large consumer market*. The city has the largest population in the country providing a big consumer market for investors.

Other factors that are continuously being improved and maintained are the close private partnership with various Business sectors and various strategies/ programs undertaken by the city to include efficient assistance services (expeditious processing of business permits), good infrastructures, improved communication, stable policies and provision of various incentives.

The city also makes available the following national and local incentives which largely applied for firms that are registered with the Philippine Economic Zone Authority (PEZA), the Tourism Infrastructure and Enterprise Zone Authority (TIEZA), and the Board of Investments (BOI).

#### *National Incentives:*

- 100% foreign equity in all investments except those reserved for Filipinos by mandate of the 1987 Philippine Constitution;
- Income Tax Holiday for six (6) years for pioneer firms and four (4) years to non-pioneer firms;
- Tax credit on raw materials, supplies and semi-manufactured products;
- Special Investors' Resident Visa;
- Employment of foreign nationals;
- Granting of Special Economic Zone status to tourism development zones and tourism estate and other incentives provided for under Republic Act (RA) 7916 or the Special Economic Zone Act of 1995; and,
- Private sector participation thru the Public-Private-Partnership (PPP) arrangement with the national implementing agencies and the local government units (LGUs).

#### *Local Incentives:*

- 10% discount on prompt annual payment of Business Taxes;
- 50% discount on business taxes to business enterprises with assistance of not more than Php3M under RA 9178 or the Barangay Micro Business Enterprises (BMBEs) Law.

### 4.4.3 Tourism

Tourism is an important sector of the Philippine economy. It is currently the largest and fastest growing industry in the world and has been utilized by countries and local governments as one of the foundation of economy. In the year 2017, the travel and tourism industry in the Philippines contributes almost 11% to the Philippine Gross Domestic Product (GDP). The Department of Tourism (DOT) recorded 6.62 million tourists visiting the country in 2017, the

highest recorded tourist arrival data. It posted an 11% growth from the 5.96million visitors in 2016 despite the calamities that continue to hit the country. The strong performance of the industry imprinted significant milestones in the Philippine history which can be attributed to the intensified marketing campaigns. The influx of visitors during the Christmas holidays, the country's international media exposure during major international events such as the papal visit of Pope Francis in January 2015, and the country's hosting of tourism events such as the Miss Universe pageant in January 2017 helped boost the country's tourism arrivals to the country.

**Table ED-22: Distribution of Tourist Arrivals by Type of Tourist, NCR and Philippines: 2009-2018**

Year	NCR			Philippines			Growth Rate
	Foreign	Domestic	Total	Foreign	Domestic	Total	
2009	1,205,127	702,689	1,907,816	2,756,581	260,518	3,017,099	
2010	1,480,871	815,604	2,296,475	3,239,960	280,511	3,520,471	16.68
2011	1,729,862	997,595	2,727,457	3,667,089	259,544	3,926,633	11.54
2012	1,533,450	909,212	2,442,662	4,019,167	253,644	4,272,811	8.82
2013	1,751,191	854,515	2,605,706	4,435,205	246,102	4,681,307	9.56
2014	1,122,860	748,379	1,871,239	4,582,072	251,296	4,833,368	3.25
2015	848,320	568,755	1,417,075	5,099,745	260,937	5,360,682	10.91
2016	245,138	249,545	494,683	5,719,356	247,649	5,967,005	11.31
2017	324,746	382,061	716,807	6,418,343	202,565	6,620,908	10.95
2018				6,984,808	142,870	7,127,678	7.65

Source: Department of Tourism (DOT)

From 2015, South Korea has been the largest source of visitors to the Philippines and by 2017, a total of 1.60 million South Koreans visited the country. This trend is followed by tourists from China, United States of America (USA), Japan, Australia, Taiwan, Canada, United Kingdom, Singapore and Malaysia. Tourist arrivals grew in number compared to previous years. In 2017, the country attracted 6,620,908 visitors and in 2018, a total of 7,127,768 arrivals, which hit the seven million mark.

The usual purposes of tourist visits were to spend holidays, to visit friends and relatives, for official/business trips, for educational/studies, religious and civic missions, for convention, for incentives, for health/medical treatment/consultation, for shopping and others.

Compared to its other major neighboring cities in the NCR, Quezon City gets only a limited share of the region's tourist market due to its distance to entry points, airports and seaports, and existence of a few accommodation facilities such as internationally managed hotels. The construction of a Convention Center within the Quezon City Hall Compound will be of valuable use to those who come to the city to host various national/international summits, conferences, conventions and other events that require large sitting capacity.

Quezon City has 42 registered hotels with estimated 4,680 hotel rooms mostly in the standard and economy room classification. It has five (5) existing resorts, 79 apartelles, 4 inns and 3 pension houses. Despite this number, only thirteen (13) – Crown Plaza Galleria Manila, Novotel Manila, Seda Vertis North, Eastwood Richmond Hotel, Luxent Hotel, B Hotel – Quezon City, Hotel 99 Inc. – Cubao, Hotel Icon Timog, Madison 101 Hotel & Tower, Microtel by Wyndham Acropolis, Microtel by Wyndham UP TechnoHub, Oracle Hotel and Residences, and Soleste Suites – are accredited by the DOT.

**Table ED- 23: Number of Hotels by Classification, Quezon City: 2018**

CLASSIFICATION	QUEZON CITY
De Luxe	3
First Class	2
Standard	14
Economy	23
<b>Total</b>	<b>42</b>

*Source: DOT; Quezon City Tourism Department*

According to DOT’s Tourism Research and Statistics Division, Office of the Tourism Planning Research and Information Management, the average length of stay of guests is 3.45 nights in accredited hotels and 6.99 nights in non-accredited hotels in 2017. This presumes an occupancy rate of 64.72% for accredited hotels and 64.51% for non-accredited hotels. The overall average occupancy rate of hotels in Metro Manila for 2017 was also placed at 64.72%, a little bit lower compared to 66.77% in 2016.

The Local Tourism Development Plan aims to transform the city into a “premier urban destination and the showcase of sustainable urban tourism development in the Philippines”. It identified tourism districts for development and promotion. These are areas with inherent advantages and unique character which have become known for and particularly possessing potentials of attracting tourists and visitors. Urban design, structural and aesthetics enhancement specific to these areas shall be adopted to turn these areas into attractive and viable tourist attractions. The plan cites nine (9) identified tourism district areas: Civic Center District, Lifestyle District, Eastwood City Cyberpark, Knowledge Community District, Cubao Growth Center District, Quezon City China Town, La Loma District, Sergeant Esguerra Avenue District, and Maginhawa Art and Food District. Out of these, only three (3) were declared through legislation: Maginhawa Arts and Food Hub through Ordinance No. SP-2439, s—2015, Quezon City Chinatown at Banawe Street via Ordinance No SP-2453 s-2015 and Cubao Growth Center/Araneta C through Ordinance No.2796, s-2018. There is a need to pursue the declaration of the six (6) other tourism districts.

Tourism is considered a powerful growth engine in economic development. It produces huge exchange movements and accommodates big investments. The city capitalizes on the following tourism marketing points/assets:

### **QC as a Wellness Center**

Quezon City is the only city in the Philippines with a large number of internationally renowned specialty hospitals that can form the base of a thriving health and wellness industry. It has the most number of hospitals, with the biggest bed capacity in the country. Its bed to population ratio of 1:287 is above the required standard of 1:500. As of 2018, there are 71 hospitals in the city, of which 17 are government-owned and 54 are privately operated. Some of these hospitals include: St. Luke’s Medical Center, a 644-bed, international-standard hospital facility; Philippine Heart Center, a well-equipped, specialty hospital in cardiovascular; National Kidney and Transplant Institute (NKTi), a premier, ISO-certified facility for renal disease and organ transplantation, Lung Center of the Philippines, a specialty hospital for pulmonary diseases; and the Philippine Orthopedic Hospital. The city is also a pioneer in stem cell therapy, the famous upscale medical treatment which is available at the NKTi and St. Luke’s Hospital. The city has an abundance of wellness and physical fitness centers, diagnostic, dental health and beauty clinics, rehabilitation centers, nursing homes, health spas, and alternative healing centers.

Other hospital facilities in the city include the Providence Hospital at West Triangle, Commonwealth Hospital and Medical Center at the Neopolitan Business Park, the Metro North Medical Center at Mindanao Avenue, the World Citi at Aurora Boulevard and the newly improved Fe del Mundo Medical Center at Banawe Street. Such development stimulates growth of medical tourism in the city. Not only do these medical institutions provide a ready place to get good medical care but they serve as sites for new learnings/trainings or venue for summits and seminars in the medical field. Though the number of medical/hospital facilities has increased, the quality of services however still needs to be greatly improved to face the challenge of global competition.

### **Quezon City as ICT Capital**

The ICT, with all its power to provide virtual travel experience and online impersonal communication for the “Global Villagers”, provides tourism in person-to-world experience, a window-shop to the world. Information Communication Technology (ICT) empowers tourism, with the developed e-commerce system already taking over the entire country. Tourism finds an effective marketing ally in ICT.

Business Process Outsourcing (BPO), continues to be one of the major economic drivers of the country, in the NCR and in the city contributing heavily to Gross Domestic Product and generation of employment. As of 2018, there are 560 information technology (IT) parks/center/buildings operating in the country and registered with the Philippine Economic Zone Authority (PEZA). Majority or 313 of these firms are in the NCR, 56 of which are in Quezon City. The city comes second to Makati which has the most number of IT parks and buildings (71) and is followed by Pasig City (50) in the top 3. There are other stronger competition arising in this industry from other cities in the region such as Global City Taguig, Mandaluyong, and Pasay.

Quezon City ranked number one in terms of declared area with the PEZA devoted to IT operations with 202.8 hectares. The city’s biggest IT Parks are: Eastwood City Cyberpark which is also the first IT Park in the country, UP Science and Technology Park (North)/Ayala Techno Hub, Eton Centris, Araneta Cyberpark and the Vertis North Ayala Park. Many IT developments have also been integrated in various mall complexes.

With the continuous growth of the IT industry in the city, employment is projected to increase in the succeeding years. The most recent employment data gathered from the different IT-related enterprises in Quezon City as of 2015 reflected a total of 372,000 persons employed in these enterprises.

Recognizing the economic contributions of the Contact Center and Business Process Industry, the QC Information and Communication Technology–Global Service Outsourcing (QC-ICT/GSO) Task Force was created to promote global outsourcing services to generate investments and employment in the city. And as support to the industry, the city provides talent development interventions to provide locators with the required competent workforce. This was formulated with industry partners, other stakeholders and the Korea-Philippines IT Training Center.

## Quezon City as Shopping Mecca of the Country

Quezon City can be called the shopping mecca of the country due to the massive shopping malls and complexes sitting center stage in practically every dense community cluster. Among these are five (5) giant SM Malls, Robinson Malls, Ever Gotesco Mall, Gateway, the giant Trinoma Shopping Complex, the Eastwood City Mall, Eton Centris Mall, the Ayala Fairview Terraces Mall, the Walter Mart and the newly developed UP Town Center. All these shopping Centers are of international standards fit for tourist visitors. Inside these malls are excellent recreational and entertainment facilities such as amusement centers, physical fitness centers, modern cinemas and restaurants from fine dining to fast food.

The city is also home to other tourism facilities and activities that would also attract tourists. See Table ED-24.

*Table ED-24: Famous Significant Historical Sites/Landmarks in the City*

Historical Sites	Location
Quezon Memorial Shrine	QMC, Elliptical Road, Bgy. Central
Pugad Lawin Shrine	Bgy. Bahay Toro
Mabuhay Rotunda	Quezon Ave. corner E, Rodriguez Ave.
Batasan Pambansa	Batasan Road
Tandang Sora Shrine	Banlat Road, Bgy. Pasong Tamo
La Mesa Dam	Lagro
Bantayog ng mga Bayani	Along EDSA, Quezon Avenue
Camp Aguinaldo	EDSA
Camp Crame	EDSA
People Power Monument	EDSA, Bgy. Ugong Norte
Gen. Lawton Monument	Bgy. Bagong Silangan
Balintawak Monument	EDSA, Bgy. Balingasa
EDSA Shrine	EDSA, Bgy. Ugong Norte
San Pedro Bautista Church	Bgy. Damayan
Himlayan Pilipino	Bgy. Pasong Tamo
Pres. Quezon Heritage House	QMC, Elliptical Road, Bgy. Central
Sto. Domingo Church	Quezon Avenue, Bgy. Sto. Domingo
Iglesia ni Cristo Central Complex	Commonwealth Avenue, New Era
Araneta Coliseum	Cubao, Bgy. Socorro
Philippine Nuclear Research Institute	Commonwealth Avenue, Bgy. Culiati
La Loma Cockpit	Bgy. N.S. Amoranto
Quezon City Hall	Elliptical Road, Bgy. Central
Pres. Aquino Heritage House	QC Circle
Ninoy Aquino Monument	Quezon Avenue corner West Avenue

## Festivals/Events

The city also hosts different festivals and activities where local and foreign visitors are gaining interest. These events are cited in Table ED-25:

*Table ED -25 Important Events/Festivals in Quezon City*

ACTIVITY	EVENT
Tandang Sora Birth Anniversary	January 6
Chinese New Year	February 1 <sup>st</sup> week
Anniversary of People Power (EDSA 1&2)	February 25
Flag Day	March
Santacruzán / Flores de Mayo	May
Lechon Festival	3 <sup>rd</sup> Sunday May
Independence Day	June 12
Birthday of Dr. Jose Rizal	June 19
Death Anniversary of Pres. Manuel L. Quezon	August 1
Birth Anniversary of Pres. Manuel L. Quezon	August 19
Death Anniversary of Pres. Benigno Aquino	August 21
Cry of Pugad Lawin	August 23
Alay Lakad	September (2 <sup>nd</sup> Sunday)
Feast of La Naval	October 8
Quezon City Foundation Day	October 12
Birth Anniversary of Andres Bonifacio	November 30
Battle of San Mateo	December 19
Death Anniversary of Jose Rizal	December 30

## Sister-city Agreements

Tourists and potential investors are also expected to visit the city as a result of sister-city agreements forged by city officials. The city has entered tie-ups that promote socio-economic and cultural exchange activities with sister cities within and outside the country. The city however is encouraged to engage more ties with highly urbanized or more industrialized cities in other countries to learn and gain advantage from the agreement.

The existing sister cities of Quezon City are as follows:

CITIES IN OTHER COUNTRIES	LOCAL CITIES
Salt Lake City, Utah, USA	Pura, Tarlak
Maui, Hawaii, USA	Wao, Lanao Del Sur
Chiba City, Japan (Miyagi)	Cotabato City
Taipei City, Taiwan	General Santos City
Daly City, California, USA	Banaybay, Davao Oriental
Agana, Guam, USA	Puerto Princesa, Palawan
Fort Walton Beach, Florida, USA	La Trinidad, Benguet
Kenosha City, Wisconsin, USA	Sagada, Mountain Province
New Westminster, British Columbia, Canada	Iloilo City
Shenyang City, People's Republic of China	Baler, Aurora
Republic of the Union of Myanmar, Yangon Region	Roxas City, Capiz

There are three (3) embassies in Quezon City: the Embassy of Columbia in Araneta Center, Cubao, the Embassy of Guatemala in Barangay Blue Ridge and the Embassy of Cyprus in Barangay South Triangle.



## CHAPTER 5: Environmental Management Program

*The Environment Sector has five (5) areas of concern – Solid Waste, Air Quality, Water Quality, Parks and Open Spaces, and Biodiversity.*

### 5.1 SOLID WASTE

#### 5.1.1 Domestic Solid Waste

##### Generation

According to the latest data from the Metropolitan Manila Development Authority (MMDA), Quezon City – being the most populous in the National Capital Region with a high concentration of social and economic activities – has the largest volume of garbage in the metropolis for the year 2018, with an estimated waste generation of 1,156,765,295 kilograms (kg.) or 1,628,554 cubic meters (cu.m.).

Correspondingly, as indicated by a waste analysis and characterization study (WACS) conducted by the city government’s Environmental Protection and Waste Management Department (EPWMD) in 2003, every QC resident yields an average of 0.66 kg of solid waste on a daily basis.

Another WACS conducted by EPWMD in 2013 disclosed that waste generation has increased to 0.88 kg/capita/day. The same study also estimated an annual upsurge of 3.33 percent per capita in waste generation. Consequently, it may be sensibly deduced that for 2016, 2017 and 2018, the city’s per capita waste generation would be 9.709 kg., 1.0032 kg., and 1.0366 kg., respectively.

With the 2013 WACS and ballpark figures derived from corresponding projected population and per capita waste generation as indicators, Quezon City generated just about 3,169,220 kg. of solid waste each day in 2018, mostly coming from residential use. Apart from which, other waste sources contribute largely enough for Quezon City’s waste generation. Refer to *Table En-1*.

*Table En- 1: Waste Sources, QC: 2015-2017*

Main Activity	2015	2016	2017
Manufacturer/Producer/Re-packer	1,056	1,026	1,028
Wholesaler	6,270	6,724	7,216
Exporter	85	88	79
Retailer	16,348	16,488	16,905
Contractor	19,459	20,255	21,325
Financial Institutions (Banks, Pawnshops, Insurance, Security & Stocks Dealers)	2,772	2,924	3,164
Franchise Holder	10	9	9
Restaurant and Eating Establishment	3,000	3,364	3,428
Proprietor, Lessor and Operator Hotels/Motels/Inns/Pension/Boarding and Other Lodging Houses	6,901	7,180	7,431
Amusement Center, Establishment, Bars, Cocktail Lounge, Gaming Activities and Social Recreation	441	459	526
Proprietor, Lessor and Operators Shopping Center and Private Markets	46	50	57
Importer	1,262	1,228	1,278
Learning Institution	575	579	579
Other Business and Business with Fix Rates	4,448	4,621	4,872
Multiple Activity	4,417	4,202	4,421
Unknown Activity	6	7	11
<b>TOTAL</b>	<b>67,096</b>	<b>69,204</b>	<b>72,329</b>

*Source: EPWMD using BPLO and ITDO data*

## Waste Composition

Based on the 2013 WACS, biodegradable wastes account for 53.95% of total waste generated while 20.30%, 18.75% and 7% belong to recyclables, residuals, and special wastes, respectively. (Refer to Table En-2)

### Collection

The city implements a Macro and Micro Cell-Based Collection System, wherein the waste generation of an area or a cell is comparable with one truckload of garbage or roughly 16 cubic meters of waste. The system of collection was established primarily to gauge the required number of vehicles needed to collect the city's daily wastes, assign proper coding of the service areas, and administer proper scheduling of waste collection. It is also being used as basis for the Package Clean-up Collection System in which private contractors were given the full responsibility to administer and directly carry out in their specific assigned area the actual collection, cleaning and disposal of solid wastes from different sources. They are also responsible for street sweeping activities, cleaning and clearing operations as well as enforcement of environmental laws, in addition to information dissemination.

In terms of collection arrangement, the city has three service schedules:

- Main thoroughfares – collection of garbage is done daily from 4:00 AM to 7:00 AM, with mopping-up operations carried out not later than 9:00 AM and 2:00 PM. Follow-up collections are undertaken to gather late and untimely disposals as well. The main thoroughfare areas are of diverse sectors, comprised mostly of commercial establishments, selected industries, along with residential houses.
- Stationary collection – daily collection route for public markets and hospitals to pick-up domestic wastes only. For government-owned institutions, collection of waste depends on waste volume. Collection is done on a daily, twice or thrice a week basis.
- Barangay/residential collection – scheduled twice a week for different areas: Mondays and Thursdays; Tuesdays and Fridays; and Wednesday and Saturdays. The barangays are made up mostly of residential houses mixed with some other sectors like commercial and industrial.

Segregated collection of waste is a standard practice in the city. It's stanchly being observed in most barangays, especially those practicing good solid waste management, in coordination with the city government. Quite a lot of residential areas are also practicing waste segregation at source taking into consideration the proliferation of junkshops buying recyclable materials. Some of the barangays deploy their own garbage trucks in collecting household wastes from selected pilot areas within their jurisdiction.

These components ensure the overall upkeep of the city. Table En-3 shows the volume of solid waste collected and number of trips administered for the assigned service areas.

**Table En- 2: Solid Waste Composition, Quezon City: 2013**

Type of Waste	2013
<b>Biodegradables</b>	<b>53.95 %</b>
Food/Kitchen Waste	43.17 %
Yard/Garden Waste	9.43 %
Others	1.35 %
<b>Recyclables</b>	<b>20.30 %</b>
Plastic	9.64 %
Paper	8.65 %
Glass/Bottle	1.15 %
Metals	0.86 %
<b>Residuals</b>	<b>18.75 %</b>
<b>Special Wastes</b>	<b>7.00%</b>

Source: EPWMD

**Table En- 3: Volume of Solid Waste Collected and Number of Trips, Quezon City: 2016-2018**

Type of Collection	2016	2017	2018
Volume of Solid Waste Collected (cu.m.)	2,343,787	1,832,689	1,628,554
Number of Trips	193,501	134,509	78,380

Source: EPWMD

During the period of 2016-2018, the volume of solid waste collected annually was less compared to the projected generation. (Refer to Table En-4)

**Table En- 4: Estimated Volume of Solid Waste Generated, Volume of Waste Collected and Disposed, QC: 2013-2015**

Year	Projected Population	Per Capita	Estimated Waste Generation		Volume of Solid Waste Collected/Disposed
		Kg/d	Kg/d	cu.m./year	cu.m./year
2016	2,975,876	.9709	1,057,475,751	281,288,549,786	2,343,787
2017	3,016,277	1.0032	1,104,464,117	293,787,454,999	1,832,689
2018	3,057,322	1.0366	1,156,765,295	307,699,568,363	1,628,554

Note:

Projected Population: 2016 and 2017 based on 2010 NSO Population Survey  
2018 based on 2015 PSA Census of Population

Waste Generation/day: Based on updated 10-year Solid Waste Management Plan 2015-2021

Waste Density: 266 kg./cu.m.

Source: EPWMD

**Table En- 5: Volume of Waste Reduction, QC: 2016-2018**

Year	Waste Reduction		
	cu.m.	Tons/day	%
2016	2,677,451	562,264.70	53.31%
2017	3,330,255	699,353.52	64.47%
2018	2,720,188	723,570.00	62.55%

Source: EPWMD

**Table En- 6: Barangays with Programs and Projects in Compliance with Republic Act 9003, QC: 2018**

RA 9003 Requirements	District						Total
	I	II	III	IV	V	VI	
With Solid Waste Management Committee	37	5	37	38	14	11	142
With Solid Waste Management Plan	37	5	37	38	14	11	142
With Materials Recovery Facility	13	3	18	13	5	5	57
With Materials Recovery System	24	2	19	25	9	6	85

Source: EPWMD

## Disposal

Since the closure of the Payatas Sanitary Landfill in July 2017, the disposal of the city's solid wastes has been transferred to the 19-hectare Rizal Provincial Sanitary Landfill, formerly known as Montalban Landfill, which is being managed by the Rizal Provincial Government.

### Post-Closure Care and Maintenance of the Payatas Controlled Disposal Facility

The post closure care of the Payatas Controlled Disposal Facility is being undertaken to ensure its safety to human health and the environment. As part of the citywide greening program, roughly 12,000 trees were planted in the facility and landfill area covering more than 3,200 sqm. In addition to the tree-planting project, the following activities and improvements were completed: asphalt overlay on access road; land development; filling and compaction; setting up of perimeter fence with vertical garden; installation of energy efficient streetlights; enhancement and repair of leachate collection system; upgrading and repair of drainage system; slope protection and erosion control; installation of pre-fabricated plant box; and expansion of security post.

Likewise, monitoring and ground maintenance has been implemented as part of the post-closure and repairs. Approximately 25,000 sqm. or 11% of the total area of the facility was cleared and cleaned through grass cutting and de-clogging of the drainage system. Coordination with the city government's Engineering Department resulted in the on-going Sheet Pile Project which commenced in November 2018. The project, which is expected to take a year to complete, will be instated to prevent lateral movement of slopes to safeguard the residents and the nearby areas.

A comprehensive solid waste management plan for the landfill is also underway. The study shows that three (3) alternative schemes are possible for the final land use of the facility: as a recreational park that requires passive site intervention; as a memorial park which involves moderate site intervention; and as a mixed-use development that calls for aggressive site intervention.

### Solid Waste Management

In compliance with Republic Act 9003 or the Ecological Solid Waste Management Act of 2000, Quezon City was the first city in Metro Manila to have its own 10-year Solid Waste Management Plan approved by the National Solid Waste Management Commission (NSWMC) through its Resolution No. SP-7788, S-2019 (*Annex 1*). Through the Plan, formulated and spearheaded by the EPWMD, QC gained national acclaim as the first urban city to put into practice the Solid Waste Management Act. It is continuously being updated to include a long term and sustainable solution to the city's growing waste generation by taking into consideration modern technologies that are both environment-friendly and socially-acceptable.

### Solid Waste Management Projects

- **Materials Recovery Facility (MRF) Project** – The facility was established to further reduce the amount of wastes being disposed at landfills. Eight (8) MRF stations were set up and manned waste pickers and junk traders were organized to perform more segregation and buying of recyclable materials and other saleable goods.
- **Biogas Emission Reduction Project** – The city is the first to operate the pioneering Clean Development Mechanism (CDM) project. The biogas emission reduction facility is the product

of an agreement of the city government with the Italian firm, PANGEA Green Energy and its local counterpart, PANGEA Philippines. A memorandum of agreement (MOA) with PANGEA was signed on February 14, 2007. The facility extracts, collects, processes and converts biogas into electricity. Said project does not only lessen the greenhouse gas emission of the landfill but also brings about a source of renewable energy that financially benefits the city through the 5% share from the sale of electricity to Manila Electric Cooperative (Meralco), over and above providing power to the sanitary landfill.

EPWMD reported that as of February 2018, the total power exported to Meralco adds up to 27,681,431.20 kwh, starting from the implementation of the commercial expanded plant in March 2013. With that figure, the city received a total amount of Php6,678,488.84 as part of its share from the sale of electricity.

In November 2018, the city government and PANGEA entered into a lease agreement for another nine (9) years, commencing on March 1, 2018. Under the new arrangement, royalties will be given the city in the amount equivalent to 1% of its net proceeds from electricity sales, as payment for the biogas extracted from the plant facility. The agreement also stipulated that any emission or discharge brought about by the facility shall be taken care of by PANGEA.

- **Establishment of Waste to Energy (WTE) Project** – In September 2016, a consortium led by Metro Pacific Investments Corporation (MPIC) submitted an Unsolicited Proposal to the Quezon City government for the establishment of an integrated solid waste management facility that will process and convert the city’s solid waste into clean energy. The undertaking involves the design, financing, construction, operation and maintenance of an integrated solid waste-to-energy facility capable of processing up to 3,000 metric tons per day of solid waste.

The project will be awarded to the consortium/original proponent given that no comparative proposals were received by the city government on bid submission date slated February 2019. However, the City Council failed to pass a resolution authorizing the Mayor to enter into a contract with the consortium as the Council went on recess early due to the midterm elections.

## **Waste Management Initiatives**

- **Collection and Disposal Services**

- Package Clean-Up System – Quezon City has been widely recognized as the first local government unit to put into action a successful and effective package clean up system on garbage collection and disposal. In a package clean up system, the private sector is given full responsibility to administer and directly carryout the management of solid wastes from various sources, along with the total environmental upkeep of the assigned service area. Contracting out to private service providers was completed through competitive bidding and by granting access to the following:

- ❖ Solid waste cleaning, collection and disposal services
- ❖ Street sweeping services
- ❖ IEC campaign & enforcement support
- ❖ Operation and maintenance of staging areas

This system has made the city’s garbage collection consistently more than 99% efficient through the years.

- Dedicated Collection – Door-to-door collection system for biodegradable and non-biodegradable wastes.
- **Community-Based Projects**
- Hiwa-hiwalay na Basura sa Barangay Project – Waste segregation at source and dedicated collection of wastes
  - Kitchen Wastes Collection – The project was implemented in barangays with no materials recovery facility or composting sites. EPWMD has accredited kitchen waste collectors for the undertaking. This also does not entail additional hauling cost on the part of the City.
  - Bulky Waste Collection – Collection of bulky wastes such as logs, branches of trees and other oversized garden wastes is done every Sunday, upon request by the barangay.
  - Recycling Activities – This includes recyclables trading, operation of materials recovery facility (MRF) or materials recovery system (MRS), junkshop integration and waste market day.
- **Institution-based Projects**
- QC Hall Waste Management Segregation Project – This necessitates the implementation of waste segregation at source and recycling at the QC Hall Complex. To sustain the project, an MRF was constructed near Gate 3 of the Compound.
  - Recyclables Trading at QC Malls – A collaborative effort of the Quezon City government, QC malls, junkshops and other recycling companies, this endeavor promotes a convenient drop-off and buy back center for both traditional and non-traditional recyclable wastes.
  - For scavengers making a livelihood from junks and scraps at Payatas, alternative livelihood opportunities are offered by way of trainings by the QC government's Small Business Promotions Office.
- **School-based Projects**
- Batang QC Eco-Savers Club – This aims to institutionalize a waste segregation and recycling program in all of the city's public elementary and high schools in the hope of making recycling a part of their daily routine. The corresponding points recorded in the students' passbooks are used to "buy" school supplies or groceries.
  - Junior Environment Police (JEP) – This activity seeks to mobilize a movement for sustainable environmental management through awareness, respect for law and the environment among the youth, thereby molding a responsible and environmentally-concerned citizen.
- **Clean-Up Operations**
- Special Cleaning Operations – The Special Cleaning Operations Groups (SCOG) is formed to conduct cleaning and clearing operations in preparation for various events and activities.
  - War on Waste – The city conducts annual "war on waste" project to encourage public and private participation for massive clean-up operations and help fight against solid waste problems.
- **Environmental Enforcement & Inspection**
- Zero Litter Campaign – This serves as a total clean-up mechanism for the city which includes the apprehension of violators vis-à-vis proper solid waste management, cleaning and beautification, clearing of obstructions, collection of garbage, and massive IEC campaign through distribution of letters and IEC materials.

- Deputized Environmental Enforcers – Tasked to conduct regular roving, fixed-posting and night operations along the city’s major thoroughfares, alongside identified litter or dumping-prone areas to warrant cleanliness in the city.
- Green Desk Project – Select police officers from the city’s twelve (12) police stations have been deputized to handle environment-related cases.
- Community (Barangay) Participatory Watch – This aims to monitor and ensure the compliance of barangays, with the end in view of assessing and improving their solid waste management system.

**- Incentive Mechanism**

- Deputized cash incentives for communities/barangays practicing efficient, well-organized and cost-effective waste reduction measures.
- Cash incentives for communities/barangays utilizing their own barangay trucks for the collection of solid wastes.
- Recognition and appreciation through giving out of various awards such as Seal of Good Housekeeping, Recognition of Best Practices by the QC Solid Waste Management Board, among others.
- Provision of financial support for the establishment of MRFs, procurement of tri-bikes as well as pushcarts for the door-to-door collection of recyclable materials.

**5.1.2 Hazardous Wastes**

Administrative Order No. 29, Series of 1992 of the Department of Environment and Natural Resources (DENR) defines hazardous waste as “substances that are without any safe commercial, industrial, agricultural or economic usage.” It is also referred to as “by-products, side-products, process residues, spent reaction media, contaminated plant or equipment or other substances from manufacturing operations and as consumer discards of manufactured products which present unreasonable risk and/or injury to health and safety and to the environment.”

In Quezon City, hazardous wastes are excluded in the scope of regular collection of solid wastes. With this, the city puts into operation City Council Ordinance No. SP-1483, S-2005 requiring all residents and business establishments to segregate used up fluorescent light bulbs from the regular collection of solid waste. Busted bulbs from households are subsequently sent to select MRFs for disposal.

Of the almost 65,000 registered businesses in Quezon City, 2,233 (3.46%) are generally categorized as manufacturing which does not allow the distinction of industries actually producing toxic and hazardous wastes. Unfortunately, the existing monitoring system is extremely weak to pinpoint sources.

A relevant city undertaking is the collection, transport, treatment and disposal of busted fluorescent lights (BFLs) and used household batteries. Done in partnership with DOLOMATRIX TSD Facility, the endeavor aims to ensure that busted fluorescent lamps and spent household batteries are properly handled and separated from other non-toxic/non-hazardous household, commercial, industrial and institutional wastes for proper treatment and stabilization before its final disposal.

## 5.2 AMBIENT AIR QUALITY

### 5.2.1 Total Suspended Particulates (TSP)

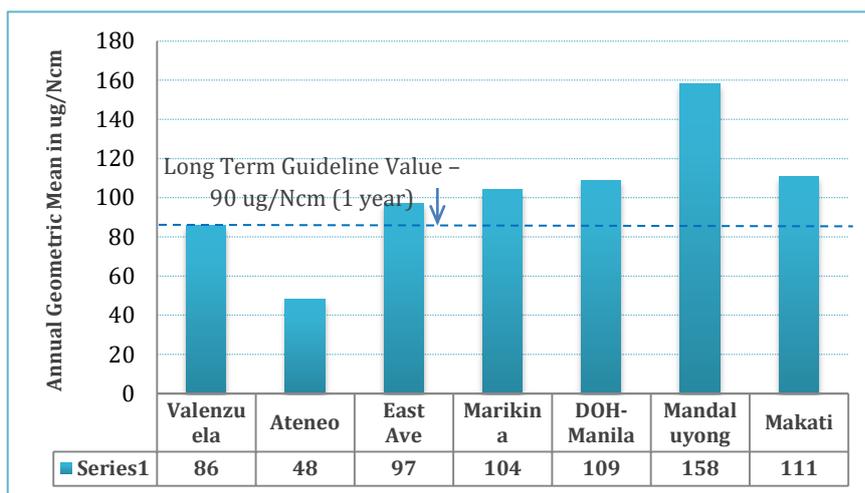
Total suspended particulates (TSP) is defined as the “small airborne particles such as dust, fume and smoke with diameters of less than 100 micrometers.” They are emitted from various sources including power stations, construction activities, incineration and motor vehicles.

The Environmental Management Bureau - National Capital Region (EMB-NCR) manages and maintains twelve (12) manual ambient air quality monitoring stations located at various strategic areas in Metro Manila, namely:

- Manila Observatory Compound – Ateneo de Manila University Campus, Katipunan Road;
- National Ecology Center – East Avenue;
- National Printing Office, EDSA;
- Marikina Sports Complex, Sumulong Highway;
- Department of Health (DOH), Rizal Avenue;
- Mandaluyong City Hall, Maysilo Circle;
- MMDA Compound, EDSA;
- Pasay Rotunda Station, EDSA corner Taft Avenue;
- Radyo ng Bayan Compound in Marulas, Valenzuela;
- National Mapping and Resource Information Authority (NAMRIA) Compound;
- Lawton Avenue; and
- Muntinlupa Bilibid Prison Compound

The Manila Observatory Compound in Ateneo de Manila University is intended for general ambient air monitoring while the National Ecology Center in East Avenue and the National Printing Office (NPO) in EDSA are for the measurements of roadside ambient air monitoring.

*Figure En-1* shows the 2015 results of the ambient roadside and general monitoring in seven (7) air quality monitoring stations measuring TSP. The Ateneo station recorded an annual geometric mean average of 48 ug/Ncm, which is 53% lower than the guideline value of 90ug/Ncm. The data reveal that despite the heavy traffic situation in Katipunan Avenue during school days, the carbon emission has been kept under control, owing primarily to the presence of thriving flora along the periphery and within the grounds of the Ateneo de Manila Campus. Results from the East Avenue Station reflected an annual TSP geometric average of 97ug/Ncm, which is slightly higher than the long term guideline value. Moderate to heavy traffic were observed in the surrounding area almost throughout the year as it is bounded by the National Government Center, tertiary hospitals and commercial establishments. In contrast, other monitoring stations situated outside Quezon City did not meet the standard annual TSP long term guideline value, except for Marulas in Valenzuela City with a recorded annual geometric mean average of 86 ug/Ncm.



Source: DENR-EMB

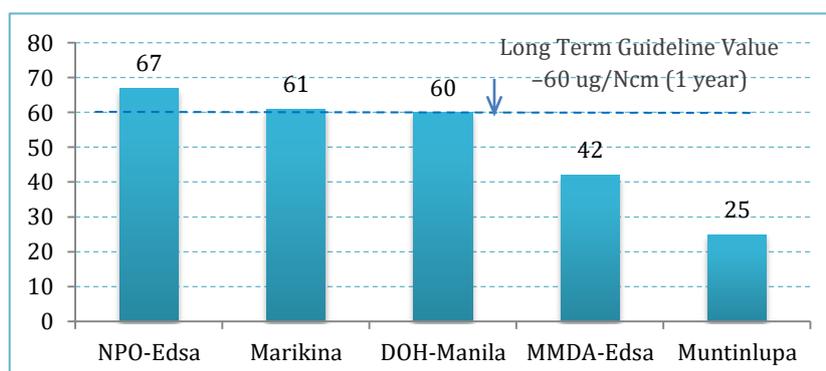
Figure En-1: TSP Concentration Annual Geometric Mean Registered at Different Monitoring Stations: 2015

### 5.2.2 Particulate Matter (PM10)

PM10 are smaller particles that are likely responsible for adverse health effects because of their ability to reach the lower regions of the respiratory tract. The PM10 standard includes particles with a diameter of 10 micrometers or less (0.0004 inches or one/seventh (1/7) of the diameter of a human hair. The long term guideline value set for PM10 is 60 mcg/cm.

Potential health impacts of exposure to PM10 include harmful effects on breathing and respiratory system, damage to lung tissue, cancer, and premature death. The elderly, children, and people with chronic lung disease, influenza, or asthma, are especially vulnerable to the life-threatening effects of particulate matter. PM10 comes from mobile and stationary motor vehicles, woodstoves, power plants, domestic and industrial fuel burning activities, to name a few sources. Their chemical and physical compositions vary widely. Particulate matter can be directly emitted or can be formed in the atmosphere when gaseous pollutants such as SO<sub>2</sub> and NO<sub>x</sub> react to form fine particles.

Figure En-2 shows that NPO-EDSA station registered the highest concentration which exceeded the long term guideline value of 60 ug/Ncm. This station is located along a major thoroughfare and is exposed to motor vehicle exhaust emissions and other unsafe elements.



Source: DENR-EMB

Figure En-2: Annual Comparative Readings of PM-10 at Different Stations: 2015

### 5.2.3 Greenhouse Gas Inventory

Emissions inventory is an approximation of air pollutants derived from an emission factor and/or an activity indicator. It normally changes over time due to adjustments in data or modifications in source operating conditions. A capacity building program on the conduct of a greenhouse gas (GHG) inventory was initiated by the city government in 2011 for the Environment Policy Management Council (EPMC). Table En-7 shows the results of the government operations GHG Emissions inventory.

**Table En- 7: GHG Emission Inventory Result on Government Operations: 2011**

Sector	Total eCO2 (kg)	% share
Buildings	39,000,857.99	62
Transport	6,289,050.28	10
Streetlights	14,922,134.77	24
Waste	2,268,847.17	4
<b>Total</b>	<b>62,480,890.21</b>	<b>100</b>

The year 2010 was used as the base year given that it was the most complete year showing emissions from Quezon City government's owned and operated facilities, in which a total of 62,480,890.21 kg. of carbon dioxide (CO<sub>2</sub>) has been measured and analyzed.

In the same year, a similar project spearheaded by Climate Change and Clean Energy Project (CEnergy) was conducted at the community level, results of which were the following:

**Table En- 8: GHG Emission Inventory Result in the Community Level; 2011**

Emission Sources	2010 Volume	Unit	Total Emissions (tCO <sub>2</sub> e)	% per Emission Source
Transportation	289,775,687.47	Liters	<b>709,806,272.66</b>	99.51
Other Sectors:				
<i>Stationary Energy – Electricity</i>	3,926,193	MWh	2,038,479.59	
<i>Stationary Energy – Fuel</i>	403,328	Liters	961,844.98	
<i>Solid Wastes</i>	705,640	Tons	270,605.34	
<i>Wastewater – Septic Tanks</i>	37,290,341	kgBOD	234,929.15	
<b>Sub-Total of Other Sectors</b>	445,250,234.61		<b>3,505,859.06</b>	0.49
<b>Total</b>			<b>713,312,131.72</b>	
(Forestry)	2,546	Hectares	(31,742.86)	
<b>Grand Total</b>			<b>713,280,388.86</b>	<b>100</b>

In 2010, the calculated greenhouse gas emissions from fuel sales, electricity consumed and solid wastes and wastewater generated in the city were pegged at 713,312,131.72 tons of carbon dioxide equivalent. With 2,545.89 hectares of forest land capable of sequestering nearly 31,743 tons of carbon dioxide equivalent, the city was able to bring down the total emissions to 713,280,388.86 tons.

As a member of the C40 Cities Climate Leadership Group, the Quezon City government got hold of a technical assistance in 2016 in order to make improvements on its GHG inventory. With 2016 as base year, the GHG Inventory was updated via the Global Protocol for Community-Scale (GPC) using the City Inventory Reporting and Information System (CIRIS) Tool established by the C40 Group.

The records on hand provide evidence that stationary energy, which covers electricity consumption, is the primary source of GHG emissions in the city.

#### 5.2.4. Energy Efficiency

Street lighting comprised 65% of Quezon City’s electricity costs or about 5% of its annual budget. The need to cut down on energy cost and allocate resources to other priorities was a crucial driving force behind Quezon City’s action on energy efficient street lighting.

##### Lighting System

Over and above Quezon City’s long commitment to environmental improvement, its recent experience promulgating energy efficiency policies and the availability of technical assistance from the World Bank Institute (WBI) were additional factors enabling the City’s LED streetlight initiative

The city government, in collaboration with the National Lightning Project of the Road Board, is replacing the city’s streetlights into more energy-efficient light emitting diode (LED) lights. The LED lampposts are being installed in the vicinity of the Quezon Memorial Circle, specifically, along Quezon Avenue, Commonwealth Avenue from Philcoa to Tandang Sora Avenue, and Mother Ignacia Avenue as well as the length of Timog Avenue, Tomas Morato Avenue, and East Avenue. LED conversion will eventually bring down the city’s annual electricity consumption.

Another project is the replacement of incandescent bulbs with more energy-efficient compact fluorescent (CFL) bulbs in the city’s markets such as Frisco, Galas, Litex, Luzon and Murphy in partnership with Global Philips Electronics & Lightning, Incorporated. Table En-9 noted the existence of a total of 25,193 streetlights in the city since 2015, in which 8,848 are currently being provided with LED lights while the remaining 16,245 are set to be replaced in the next two years.

*Table: En-9: Status of Existing Streetlight per District, QC: 2015*

District	Total Existing Streetlight	LED Installed	No. Of streetlights to be converted
I	4,413	1,372	3,041
II	2,227	715	1,512
III	3,115	1,024	2,091
IV	6,487	3,324	3,163
V	5,009	1,285	3,724
VI	3,942	1,128	2,714
<b>Total</b>	<b>25,193</b>	<b>8,848</b>	<b>16,245</b>

*Source: Task Force Street Lightning*

## Other Alternative Energy Solution Initiatives

- Electricity from the biogas emission reduction project – The nine-year lease agreement between the city government and PANGEA warrants that, as payment for the biogas extracted from the facility, the QC-LGU will receive biogas royalties in the amount equivalent to 1% of its net proceeds from electricity sales.
- Electrical Vehicles (EVs) – Quezon City started promoting “green transport” by purchasing electronic tricycles and electronic jeepneys to replace the conventional ones. The move is seen as a viable and long-standing solution to drastically cut back the smoke emitted from fossil fuels of gas-fed vehicles attributable to EVs’ zero emission of harmful air pollutants and greenhouse gases. In June 2019, the city has been a recipient of 300 electric tricycles (e-trikes), acquired under the Department of Energy (DOE’s) program to campaign for energy efficiency and clean technologies in the transport sector. The deployment of these e-trikes forms a substantial part of the city governments’ initiatives to eventually replace around 25,000 units of tricycles with e-trikes in the city.
- Solar panel system – Since 2014, the city government opted to make use of alternative and renewable sources of energy such as solar power to cut down on high electricity expenses needed to maintain the city’s large network of public schools. To date, the city has installed solar panels in three (3) buildings in Commonwealth High School and is set to further solarize 146 public schools all over the city to save on utility bills.
- Waste-to-Energy (WTE) Plant – To a certain extent, QC has been rather uncompromising with regards to espousing renewable energy and is set to construct its own waste-to-energy plant as part of its green waste management program. The project – a joint venture between the QC government and the Metro Pacific Investments Corporation (MPIC) – is a pioneering program in the Philippines that is set to process and convert up to 3,000 metric tons of municipal solid waste a day into 42 megawatts of renewable energy over a concession period of 35 years.

### 5.2.5 Compliance to Green Building Ordinance

Ordinance No. SP-1917, S-2009 or the Quezon City Green Building Ordinance of 2009 (*see Annex 2*) necessitates that construction of new structures and those undergoing retrofitting in the city, including movable properties and other structures, adhere to minimum standards of green infrastructure in their design and construction. This is lodged under the Department of the Building Official (DBO).

Under the ordinance’s implementing rules and regulations (IRR), commercial, institutional or industrial buildings with floor areas of no less than 2,000 square meters are required to comply with Green Building Standards. While conformity with the ordinance can add to the cost of construction of new buildings, it offers an incentive in the form of tax credits for land users, developers and planners making use of environment-friendly technologies in their buildings.

## 5.2.6 Compliance to Environmental Standards

The Environmental Management Bureau – National Capital Region (EMB-NCR) is tasked to process and evaluate applications for Environmental Compliance Certificate (ECC). In keeping with DENR Administrative Order (DAO) 2003-30, projects that are located within environmentally critical areas and are considered to pose significant environmental threats and adverse environmental impacts, are subject to the application of ECC. On the other hand, projects that do not fall within the purview of the Philippines' Environmental Impact System (EIS) are subject to the application of Certificate of Non- Coverage (CNC). As per the Bureau's report, a total of 364 new and amended ECCs and 319 CNCs were processed and issued for the year 2015 in National Capital Region. The highest number of application was observed in Quezon City with 58 and 120, respectively.

### Pollution Control Programs

#### - Clean Air Program

- Anti-Smoke Belching. Roadside apprehension of erring drivers and operators along with testing of motor vehicles using the certified smoke emission testing machine along roadsides. Flyers are also distributed to passing motorists to bolster information and education campaign. Through nonstop anti-smoke belching operations, motorists are inclined to comply with set emission standards to improve the people's health and well-being, besides contributing to environmental protection.

In the conduct of anti-smoke belching operations in Quezon City, two (2) units of e-vehicles are being utilized by the Anti-Smoke Belching Unit of the EPWMD. Three (3) teams are deployed, each composed of eight (8) personnel with the following designated positions: Team Leader, Spotter, Flagger, Apprehending Officer, Machine Operator, Depressor, Prober, and Ticket Issuing Officer.

- Transport Summit. This aims to increase awareness on air pollution and proper vehicle maintenance to lessen emissions of harmful pollutants.
- Industrial Inspection and Monitoring of Business Establishments. This includes rigid inspection and monitoring of business establishments prior to the issuance of pollution clearance.
- Closing down of unscrupulous emission testing centers.
- Setting up and eventual promotion of routes for e-vehicles and bike lanes.
- Banning of open-pit burning and other similar smog-creating activities.

## 5.3 WATER QUALITY

### 5.3.1 Groundwater Resource

#### Groundwater Levels

According to the 2004 study of the National Water Resources Board (NWRB) in relation to the Water Resources Assessment for Prioritized Critical Areas (Phase I), the groundwater levels in Metro Manila have declined sharply over the decades. An assessment involving the 1955 and 1994 piezometric water levels showed that the groundwater flow pattern drastically changed, caused by too much extraction of water from the aquifer. Three prominent cones of depression were noted in Paranaque, Pasig and Valenzuela. In Quezon City, a relatively small area adjacent to Caloocan and Valenzuela had a groundwater level 20 meters below average sea water level and the Libis-Ugong Norte near Pasig measured 40 to 80 meters under sea level in 1994. In 2004, the drop progressed steeply as almost the whole stretch of Novaliches from Balintawak to Kaligayahan experienced levels ranging from -20 to -120 meters, which are said to be among the deepest declines happening in Metro Manila over the years. After some time, this possibly will end in much great danger of saltwater intrusion and having groundwater unfit for human consumption in the city.

#### Groundwater Abstraction

As previously been mentioned, the reduction in water levels and the depletion of groundwater resource may perhaps be caused by excessive withdrawal of water from the aquifer. Aside from the groundwater abstraction of Metropolitan Manila Waterworks and Sewerage System (MWSS) equivalent to 3% of the total water supply for Metro Manila, wells legally registered with the NWRB were extracting groundwater at the rate of 12,823.53 liters/second in 2010. However, it is believed that the actual withdrawal is 70% more because of unauthorized abstraction. NWRB has no disaggregated data for Quezon City except for the number of well permits granted as of December 2013. (Refer to Table En- 10)

**Table En- 10: Well Permittees by Purpose; Quezon City: as of December 2013**

Purpose	No. of Permits Granted
Commercial	27
Domestic	47
Industrial	26
Hospitals	8
Irrigation	7
Livestock	3
Municipal	9
Fire Protection	1
<b>Total</b>	<b>128</b>

Source: NWRB

### 5.3.2 Natural Waterways

Numerous rivers and creeks crisscross the territory of Quezon City. They are extensive and serve best as network for natural drainage. They form part of the river basins covering the city's landscape, the largest of which are the Malabon –Navotas – Tullahan – Tinajeros River System and the San Juan – Pasig River Basin. Two major concerns that confront the city's natural waterways are pollution and the loss of creek and river easements.

### **Pollution of the City's River System in Relation to Pasig River**

The greater part of Quezon City and its river system drains into the Pasig River. The QC area encompasses practically 80 sq.km. of San Juan River Basin, which has an area of 87 sq.km. and roughly eight to nine sq. km. of the Marikina Downstream River Basin covering an area of 17 sq. km. Aside from high population concentration in these areas, the greater majority of the city's commercial and industrial establishments are located here as well.

### **Pollution of the City's River System in Relation to Manila Bay**

Situated in the northern part of Quezon City, the Novaliches watershed is the upstream of the Malabon – Navotas – Tullahan – Tinajeros (MaNaTuTi) River System which runs through the cities of Malabon and Navotas, and in the end empties to Manila Bay. The river system has a combined length of 23 kms., with the widest span width of 60 meters in Navotas City. The La Mesa Dam controls the headwater of the MaNaTuTi River System, which has a catchment area of 69.25 sq. km. The area is densely populated, wherein the bulk of industrial establishments are to be found.

### **Sources of Water Pollution**

There are two (2) common sources of pollution: point source and non-point source. Point source alludes to all identifiable causes of pollution with specific discharge point into a particular water body. On the other hand, non-point sources have no identifiable cause and include run-off from irrigation or rainwater that picks up pollutants from farm and urban areas.

A joint World Bank (WB) and MWSS study in 2003 reveals that domestic wastewater discharge accounts for the highest pollution load introduced to Manila Bay. No more than 18% of the wastewater generated in Metro Manila households is collected by localized independent sewerage systems. Nearly all of these are discharged through outfalls into Manila Bay. Most residential wastewater of about 82% is excreted into the public drainage system either directly or through septic tanks. These septic tanks are not dislodged and the effluents released into the water bodies are basically untreated, resulting in heavy pollution all over the metropolis, mostly in high density areas.

The imminent regression of the fresh water bodies could be blamed on the wastewater effluent emanating from the industries, leaking sewers and septic tanks, as well as direct discharge of animal wastes and of polyphosphates from detergents, in addition to run-offs and improper dumping of solid wastes.

### **Non-Biodegradable Wastes**

Studies have identified plastic bags as a primary contributor to waterways pollution. The city government has taken a strong position with regard to regulating the use of plastic bags from consumers through SP-2140,S-2012 or the Plastic Bag Ordinance (*Annex 1*). Consumers who opt to use plastic bags are charged P2.00 for each bag that goes into a "Green Fund." Since its enactment on the last quarter of 2012, total green fund collected has amounted to Php337,147,576.00 to date. Of this amount, Php23.8 million has been used to subsidize environmental projects proposed by the retailers themselves. Correspondingly, a total of 7,985,108 pieces of plastic bags have been recovered since its implementation.

**Table En-11 :Green Fund Projects, QC: 2017-2018**

Data of Implementation	Project Title	Project Partner	Retailer	Amount Utilized
May 2017	Shoot that Kalat	10 sets of segregation bins for each of the 27 selected QC public schools	Puregold Price Club	1,571,572.80
June 2017	Clean drive one trash bin, one cleaner future	10 sets of segregation bins for each of the 18 selected QC public schools	Robinsons Handyman	880,000.00
September 2017	Recycled school chairs	800 recycled school chairs to Demetrio Tuazon Elem. School	SM Cubao	1,450,000.00
October 2017	e-Bike	7 e-bicycles for each of the 5 selected QC police stations	Mercury Drug	669,200.00
October 2018	MRF and composting	Establish MRF and composting area at Ponciano Bernardo Elem School	Zagu Foods Corp	299,574.72
December 2018	e-Trikes for community Safety and Security	2 e-trikes for each of the 34 selected bgys in QC	Rustan Supercenters , Inc.	17,208,600.00

Source: EPWMD

The Green Fund Project is a mechanism devised by the EPWMD designed not only to appraise the existing solid waste management practices, but also to provide the vision and direction for future solid waste management, as well as set guideposts for waste disposal over a 10-year period. The Waste-to-Energy project, another breakthrough being considered by the QC government, is a very important part of this vision and direction.

### **Water Quality Assessment**

Water quality is gauged on the basis of a set of beneficial uses as defined in the DENR Administrative Order 34, S-1990. There are thirty-three (33) parameters that characterize the desired water quality per water body classification. Parameters monitored include:

- Dissolved oxygen (DO), biochemical oxygen demand (BOD), total suspended solids (TSS), total dissolved solids (TDS), and heavy metals for inland surface waters.
- Fecal Coliform, nitrates, and salinity (chloride content) for groundwater as defined in the Philippine National Standards for Drinking Water (PNSDW)
- DO, Coliform, and heavy metals for coastal and marine waters.

Lack of dissolved oxygen (DO) in the river throughout the dry season is the primary reason for its obnoxious smell and the absence of biological life as well. Low DO levels are the end result of the wanton discharge of domestic and industrial wastes from communities and industrial sites.

Biological oxygen demand (BOD), on the other hand, measures the amount of oxygen consumed by microorganisms in decomposing organic matter in stream water. The higher the BOD value, the higher the risk of pollution.

### Water Quality Monitoring Stations

#### Malabon – Navotas – Tullahan – Tinajeros River System

Out of the fifteen (15) monitoring stations found in MaNaTuTi River System, five (5) are located in Quezon City namely: Sarmiento Station in Barangay Sta. Monica; Gulod Station in Gulod Bridge, Barangay Gulod; Northridge Station in Northridge Park Subdivision, Barangay Sta. Monica; Dahlia Station in Dahlia Avenue, Barangay Greater Fairview; and Fairview Station in Fairview Bridge, also in Barangay Greater Fairview.

As can be gleaned from *Table En-12*, the annual recorded results of all the monitoring stations located in Quezon City, and also the other monitoring stations sited in Malabon and Navotas, did not pass the DENR Water Quality Criterion for the past three (3) years. This simply signifies that Matatuti River System is incapable of carrying aquatic life.

*Table En-12: Results of the Water Quality Monitoring Stations: Meycauayan-Navotas-Tullahan-Tenejeros River System (Matatuti); 2013-2015*

Water Quality Parameters	2013	2014	2015
	Mg/L		
Biochemical Oxygen Demand(BOD)7 mg/L below	35.86	39.19	39.00
Dissolve Oxygen(DO)5 mg/L Up)	00.06	00.00	00.00
Total Suspended Solids(TSS)10 mg/L	33.89	39.61	13.00
Oil & Grease(2 mg/L)	4.64	4.17	4.10

#### San Juan – Pasig River System

There are eight (8) water monitoring stations to be found in Quezon City, namely: Ermitanyo Station in Aurora Boulevard, Cubao; Diliman Station in Umbel Street, Barangay Kalusugan; Kaliraya Station in Barangay Tatalon; Mariablo Station in Roosevelt Avenue, Barangay Sta. Cruz; Talayan Station in Barangay Talayan; Caroline Station in MH del Pilar, Barangay San Antonio; Dario Station in Epifanio delos Santos Avenue; and Culiati Station in Barangay Culiati.

**Table En-13 : Results of the Different Water Quality Parameters: San Juan River Monitoring Stations; 2014-2015**

Location of Station	Name of Creek	Biochemical Oxygen Demand(BOD) 7 mg/L below		Dissolve Oxygen(DO) 5 mg/L Up		Total Suspended Solids(TSS) 10 mg/L		Oil & Grease (2 mg/L)	
		2014	2015	2014	2015	2014	2015	2014	2015
Aurora Blvd. Broadway	Ermitanyo	58.00	54.75	0.00	0.42	0.00	53.33	5.60	5.18
Umbel St., Kalusugan	Diliman	56.00	76.42	0.00	0.34	0.00	61.67	5.80	6.08
Kaliraya St., Tatalon	Kaliraya	57.8	57.67	0.00	0.36	0.00	51.67	5.20	5.45
Roosevelt Avenue, Sta. Cruz	Mariablo	57.5	54.76	0.00	0.58	0.00	54.17	4.70	5.32
Araneta, Talayan	Talayan	83.22	78.58	0.00	0.33	0.00	64.17	6.30	5.71
MH Del Pilar, San Antonio	Caroline	52.5	58.08	0.00	0.50	0.00	49.17	4.30	5.23
EDSA	Dario	63.50	57.08	0.00	0.86	0.00	51.67	5.00	5.23
Culiat	Culiat	48.5	53.00	0.00	1.02	0.00	50.00	4.20	5.14

### Encroachment of Creeks and River Easements

Ocular inspection of the rivers and creeks, along with their tributaries, provides evidence that easements and riverbanks, as defined and provided for by the law, are no longer existent. A large number are taken up by structures belonging to affluent and poverty-stricken families alike.

As per the 2016 census of the Housing, Community Development and Resettlement Department (HCDRD), there are more or less 14,313 households dwelling in just about 12,780 structures along creek and river easements. (See Table En-14)

**Table En-14 : Illegally Encroached Structures Along Rivers and Creeks, 2016**

Waterways	No. of Families	No. of Structures
Creekside	7,384	6,047
San Juan River	1,335	987
PRRC	2,454	2,481
Tullahan River	1,621	1,908
Marikina River – Flood Plains	1,519	1,357
<b>Total</b>	<b>14,313</b>	<b>12,780</b>

Source: HCDRD

In the same way, physical development in certain areas has caused the narrowing of creeks and rivers and even loss of a few portions of these waterways. There are also instances where the creek has been covered, diverted, and in certain cases, reclaimed to develop building lots.

### Programs/Projects

- **Riverways Cleaning and Management Program.** The program seeks to spruce up and keep in good condition the aesthetic opulence of the city's rivers and creeks through active community involvement. The project has a conspicuous influence in terms of enhancing the physical environment that is indicative of a strong partnership with the community, above and beyond offering employment opportunities to underprivileged residents.

For 2018, the Riverways Cleaning Operations Group (RCOG) of the EPWMD, all through the conduct of manual clean-up operations, accumulated a total of 1,499.34 cubic meters of river wastes encompassing approximately 202.7 linear kilometers of riverways.

Said undertaking is a coordinative effort in support of the inter-agency implementation of the Supreme Court Continuing Mandamus – a court order requiring all concerned government agencies to coordinate in the clean-up, rehabilitation, preservation, restoration and maintenance of the waters of Manila Bay to a Class B level. In a recently concluded LGU Compliance Assessment in relation to the Manila Bay Clean-up Program, Quezon City ranked first among all LGUs in Metro Manila with an overall average score of 95%.

- **Clean-up Operation for Dengue Prevention.** This project is being implemented to reduce dengue cases in the city's highly affected barangays.
- **Adopt-an-Estero Waterbody Program.** A collaborative undertaking between and among the national government through the DENR, LGUs, estero communities and other stakeholders and donor-partners with the intent of selecting and adopting creeks/esteros for rehabilitation and maintenance.
- **Lingap-Sapa.** This involves a citywide effort that underscores community participation in the clean-up of waterways.
- **International Coastal Clean-Up.** The city government remains steadfast in its commitment to support and play an active part in the annual International Coastal Clean-up (ICC) conducted every September.
- **Posting of Signage and Plates.** Ordinance plates and signage are posted the length of prominent areas in the city, especially dumping prone sites, so that the constituency may well be reminded to keep the environment clean and garbage-free at all times.
- **Automatic Trash Rake (ATR) Facility.** The city government seeks to draw up plans and make available an alternative measure to de-clog rivers/creeks and improve the operation of flood control facility. And, in an effort to upgrade its garbage collection, the city intends to make use of the ATR, an inclined conveyor-type garbage collection mechanism, instead of the existing manual method. The ATR facility is sited at Balingasa Creek, specifically along the center island of G. Araneta Avenue near Mauban Street, at the boundary of Barangays Manresa and Masambong. It was turned-over by the Department of Science and Technology (DOST) to the Quezon City government on December 3, 2014 and became fully operational on February of 2015.



*Automatic Trash Rake Facility in Balingasa Creek*

## 5.4 PARKS AND OPEN SPACES

Endowed with the biggest land resource in Metro Manila, Quezon City prides itself on having more than enough parks and open spaces, both vast and small. The list is made up of historical parks and shrines, on top of major and extraordinary recreational areas that are themselves unique in terms of size, features, and even biodiversity. It also includes reserves and potential areas adding to the City's expansive network of open spaces like institutional grounds including UP, Ateneo de Manila University, Miriam College, Congress, golf courses, corridors or right-of-ways and river easements.

The city government's Parks Development and Administration Department (PDAD) reported that out of the city's 598 parks and open spaces, 259 are developed, 67 are partially developed and 272 are undeveloped. District V has the most number of developed and undeveloped parks numbering to 70 and 60, respectively. (See Table En-15)

**Table En-15: Status of Parks/Open Spaces per District, QC: December 2018**

Status	District						Total
	I	II	III	IV	V	VI	
Developed	38	23	42	27	70	59	259
Partially Developed	2	4	7	1	25	28	67
Undeveloped	42	49	31	36	60	54	272
Total	82	76	80	64	155	141	598

Source: PDAD

### 5.4.1 Major and Special Parks

#### Quezon Memorial Circle

The 25-hectare Quezon Memorial Circle (QMC), the central park of the city, is a public realm well-known for being home to the shrine, museum and remains of Manuel L. Quezon. Situated at the heart of the city, it serves as the core and unifying element of the city's Open Space Network System/Garden City due to its strategic location and high visibility.

The major components of the QMC are the following:

- Quezon Memorial Monument Pylon and shrine, the central element of QMC and the point reference for all development programs, projects and activities
- QCX and Museum
- Meditative area
- Parks, playground and other recreational areas
- Venue for social interaction, socio-cultural exchange, celebrations and other public gatherings
- Venue for facilities for arts and culture and historical heritage promotion
- Environment protection showcase area
- Economic enterprise area

Data from the QMC Administration Office showed that visitors of the park ranged from 12,000 to 15,000 during weekdays and 25,000 to 30,000 in weekends and holidays.

## **Ninoy Aquino Parks and Wildlife Center**

Located at the southwest of the Quezon Memorial Circle, the 19.29-hectare Ninoy Aquino Parks and Wildlife Center (NAPWC) is the lone zoological and botanical garden in Metro Manila. It offers shelter to various species of endemic and endangered birds, mammals, reptiles and amphibians in the open-air mini-zoo and Wildlife Rescue Center. It also serves as a venue for public education, as a training and research facility for future veterinarians and biologists, and as a source of wildlife stock for local zoos and DENR-accredited facilities for their public education, breeding, and other conservation-oriented undertakings. Other amenities include cottages for conferences, meetings, seminars and other gatherings, amphitheater, children's playground, visitor's center, a man-made lagoon for fishing, tea house, picnic sheds, a rock garden and a craft village.

The NAPWC was proclaimed as a protected area and component of RA 7586 or the National Integrated Protected Areas System (NIPAS) Act of 2004, as amended by RA 11038 or the Expanded NIPAS Act of 2018, which envisions the Center as a world-class ecotourism destination and a venue for biodiversity conservation and education on Philippine endemic and rare wild flora and fauna.

As per the NAPWC administration office, visitors to the center in the years 2014 and 2015 add up to 515,281 and 471,600, respectively. Overall earnings generated in that period amounted to Php8,866,935.46.

## **La Mesa Watershed**

Adjudged as the "Green Lung" of Metro Manila, the 24-hectare La Mesa Watershed is the last remaining forest of its size in the metropolis. With an area of about 2,700 hectares, it was declared as Watershed Reservation on 25 July 2007 by virtue of Presidential Proclamation No. 1336. Previously, the La Mesa Watershed was under the jurisdiction of the MWSS from 1971 until 2007, by virtue of Republic Act No. 6234. With Presidential Proclamation No. 1336, the watershed is now under the joint administrative jurisdiction, supervision and control of the MWSS and DENR.

Within the watershed is a reservoir of about 179 hectares that serves as water impounding structure supplying water for domestic and commercial use of some 12 million people in Metro Manila.

Another attraction that offers relevance in the area is the 30-hectare La Mesa Eco-park Resort, the biggest eco-tourism destination in Metro Manila. In a multi-stakeholder partnership among the QC government, ABS-CBN's Bantay Kalikasan Foundation and the MWSS, the park has been maintained and preserved as a natural recreational refuge with educational purposes of an outdoor classroom envisioned to bring the people back to La Mesa, as it did in the old days. Facilities include the Orchidarium, Butterfly Garden, Hanging Bridge, Picnic area and Eco-trails.



### **UP Arboretum**

Measuring a mere sixteen (16) hectares of the 493-hectare academic institution that is the Diliman campus of the University of the Philippines, the UP Botanical Garden and Arboretum supports a diverse collection of plants and wildlife, which, while not actually extraordinary as compared to pristine ecosystems, can still be considered a compelling attempt at environmental preservation regardless of urban accretion and human threat.

### **Balara Filters Park**

Situated in Barangay Pansol, the 60-hectare Balara Filters Park is regarded as one of the oldest recreational areas in Quezon City, having been first opened to the public since 1953. The park occupies part of the old Balara Filtration Plant complex, one of the main treatment facilities for water coming from the La Mesa Dam. An astounding leisure spot where you get to travel back in time and be amazed at Art Deco buildings. It features an elevated picnic grove, a mini-park for kids, the Balara Filtration Windmill, a replica of the Carriedo Fountain, and the Anonas Amphitheater, on top of buildings and other structures that stood the test of time. The park is administered by the Manila Water Company in partnership with the Quezon City Parks Development and Administration Department (PDAD).

### **Historical Parks and Shrines**

The lengthy listing of historical parks include the Pugad Lawin Shrine, Tandang Sora Shrine, Andres Bonifacio Monument, Gen. Geronimo Monument, Bantayog ng mga Bayani, and People's Power Monument, to mention just a few.

### **Other Open Spaces**

Adding to the inventory of open spaces in the city are large institutional grounds like those of University of the Philippines, Ateneo de Manila University, Miriam College, QC Hall compound, House of Representatives complex, Veteran's Memorial Medical Center, V. Luna Medical Center, Camp Crame, and Camp Aguinaldo.

## **5.5 BIODIVERSITY**

Compared to other cities in Metro Manila, Quezon City has a more thriving wildlife owing primarily to the sheer size and attributes of the city's parks and open spaces. Studies show that the city's recreational areas and open grounds are home to a countless variety of flora and fauna, more than a few of which are classified as endemic or indigenous, exotic, endangered, highly endangered, if not vulnerable.

In 2018, the city government through the EPWMD, PDAD, and the City Planning and Development Department (CPDO), involved itself in the Urban Biodiversity Program of DENR's Biodiversity Management Bureau (BMB). The program is aimed at establishing an inventory to complement the appraisal being conducted of the city's flora and fauna. This is intended to craft a City Biodiversity Index which will serve as guide in the assessment and monitoring of the city's greening program to facilitate replication by other LGUs. The three (3) areas selected as the program's implementation sites are: Quezon Memorial Circle, La Mesa Watershed and the NAPWC. *Table En-16* presents only the actual number of flora and fauna, as well as bats and birds, in QMC and La Mesa Watershed.

**Table En-16: Number of Flora and Fauna,\* Quezon Memorial Circle and La Mesa Watershed: 2018**

Area	Flora		Fauna			
	Species Identified	Individual Count	Bats		Birds	
			Species Identified	Individual Count	Species Identified	Individual Count
QMC	42	204	3	47	10	40
La Mesa Watershed	46	279	2	77	27	180

Source: BMB-DENR

\*Tagged in August – September 2018 during Phase 1 of the Program

### Programs and Projects

- Quezon City Biodiversity Profiling.** This aims to develop a database of tree inventories in the city’s parks and open spaces. Besides the classification of tree species, the project includes geo-tagging fieldwork with the use of a handheld Global Positioning System (GPS) to get the exact locations of trees. Maps were also produced using Geographic Information Systems (GIS) software. The Special Projects on Climate Change of the EPWMD is responsible for the tagging of trees located in public parks and schools. A total of 31,893 trees were tagged for the period 2016-2018.
- Gabriela Silang Ecological Park.** In an effort to lessen the heat island effect that may be caused by numerous infrastructures inside the Quezon City Hall compound, the EPWMD in coordination with the City Architect Department, City Engineering Office and PDAD, established the Gabriela Silang Ecological Park at the northeastern corner of the compound. The park was inaugurated in December 2018 and features an urban garden, vertical garden, aviary and rainwater harvesting component, among others.
- Museum of Philippine Biodiversity.** Envisioned to be a catalyst for the general public to recognize the value of the country’s natural bounty, a Biodiversity Museum is set to be erected at the Ninoy Aquino Parks and Wildlife Center in Quezon City. The move is seen as a no nonsense approach to rally round the people in realizing the adverse effects of exploitative practices, with the prospect of drumming up support and active participation in restoring and safeguarding what remains of our protected areas and biodiversity.



Institutional Profile  
and Development

| 6



# CHAPTER 6: Institutional Profile and Development

## 6.1 LOCAL GOVERNMENT ORGANIZATION

### 6.1.1 Evolution of the Quezon City Government

Since its establishment on 12 October 1939 through Commonwealth Act 502, the Quezon City government's most basic structure has evolved from a lean set-up of 10 offices and a five-member city council into what is now a complex and multifaceted governing body. Effecting the changes in the city's organizational structure – both minor and significant – were the string of law enactments by the National Assembly, before the war and by the Philippine Congress, after the war.

The Executive Branch at that time includes the Offices of the Mayor and the Vice Mayor, along with the Offices of the City Health, the City Engineer, the City Police, the City Treasurer, the City Assessor and the City Attorney. Comprising the Legislative Branch then were the City Council with the Mayor, the Vice Mayor and three (3) other members, supported by the Office of the City Secretary. The Judiciary Branch consists of the Justice of the Peace Court and the auxiliary justice. At that time, all the city officials were appointed by the President of the Philippines.

Commonwealth Act 659, adopted on 21 June 1941, amended the structure when the Office of the Justice of the Peace Court was renamed as the City's Municipal Court with two (2) branches, the First and the Second Branch. Said Act also created the position of the Clerk of Court and increased the number of assistant city attorneys from one (1) to three (3).

On 16 June 1950, membership of the city council increased from five (5) to ten (10), with the mayor, vice mayor, and eight (8) councilors. This was made possible by way of Republic Act (RA) 537, otherwise known as the revised charter of Quezon City, which also elevated all the city offices into department level and created the City Fire Department.

On 16 June 1956, RA 1575 jacked up to three (3) the members of branches of the Municipal Court. Soon after, on 19 June 1959, the positions of the mayor, the vice mayor and member of the city council, which used to be appointive, were declared elective posts by virtue of RA 2259. The first local election for these offices was held on 10 November 1959.

Additional modifications to the city's organization were made on 18 June 1960 through RA 2649 with the setting up of the Office of the City Fiscal in place of the Office of the City Attorney, with six (6) levels of assistant fiscals as opposed to only four (4) assistant city attorneys.

The position of assistant chief for each and every department, including that of the Secretary to the Mayor, which also ranked as assistant department chief, was created by RA 3663 enacted on 22 June 1963.

One the most important structural makeovers was the dividing up of the city into four (4) districts, to be represented by four (4) elected councilors each, thereby expanding the council membership to sixteen (16). This was caused by the enactment of RA 5441 on 08 September 1968.

Just the same, RA 5441 removed the voting power of the vice mayor in the city council except only in case of a tie. Be that as it may, it elevated the position of Secretary to the Mayor into a department level and created the position of Assistant Secretary to the Mayor as well.

Nonetheless, it was the formation of the Metropolitan Manila Commission (MMC) on 07 November 1975 via Presidential Decree (PD) 824 that caused decisive influence not only on the city's organization but also on its autonomy. Said decree made Quezon City, along with the sixteen (16) other local governments in the Greater Manila Area as mere component units of a higher-level, commission-type government agency directly under the Office of the President.

Seeing that the Commission was already vested with powers encompassing both the legislative function and certain executive responsibilities previously held by the local governments, it was decided on 31 December 1975 to abolish all the local councils in Metro Manila. The Commission then has the following salient features:

- Acts as the central government that formulates programs and policies, including review and approval of local programs and administers its own programs like fire control, garbage disposal, and traffic management.
- Empowered to review, amend, revise or repeal local ordinances and enact new ordinances and resolutions – powers that used to belong to the local councils.
- Composed of the governor, the vice-governor and three (3) commissioners: one for planning, another for finance, and the third for operations – all of whom were appointees of the President.
- Appropriated with an initial fund of Php2.5 million from the National Treasury plus proceeds from certain taxes accruing from contributions of the component LGUs and outlays in the Annual General Appropriations Decree.

Even as the National Assembly passed the Local Government Code in 1983 through Batas Pambansa Blg. 337, which was approved on 10 February 1983 and embodied the declared principle of autonomy of local government units, said piece of legislation exempted Metro Manila from its coverage. And so, PD 824 remained to be in force.

It was only with the ratification of the 1987 Constitution that Quezon City, along with the rest of Metro Manila, reclaimed its autonomy, especially the power to legislate. The first local elections after martial law and as called for by the new constitution was held in January 1988. Positions that were voted for included those of the city mayor, vice mayor and twenty-four (24) councilors, with six each from the four (4) districts.

For four (4) years – from 1986 to 1990 – the fate of MMC was uncertain. Eventually, on 09 January 1990, it was reconstituted to become the Metropolitan Manila Authority (MMA) by means of Executive Order 392. The new agency comprised the heads of the seventeen (17) local government units of the metropolis as its Council, with the chairperson of which elected from among its members for a six (6)-month tenure. Nothing like its predecessor, MMA's control and influence was restricted to general executive functions involving services of metro-wide concern, but none that will directly intervene with the legislative functions of the local councils.

In any case, the support structure of the MMC headed by three commissioners was retained. Nonetheless, the commissioners were renamed assistant general managers, even as a new position for general manager, which was used to be held by the chairman, was created.

The MMA's existence was of "interim" in nature, pending Congress action on a permanent entity to oversee Metro Manila. On 01 March 1995, the President signed RA 7924 creating the Metropolitan Manila Development Authority (MMDA) as a replacement for MMA. The underlying composition and functions of the body, however, remained unchanged except for the following:

- Inclusion of the presidents of the Vice Mayors League and the Councilors League of Metro Manila in the Council;
- The President's appointment of MMDA chairperson with the cabinet member rank, and whose term of office shall be on the former's sole discretion; and,
- Additional funding sourced from the General Appropriations Act.

Quezon City is in the territorial jurisdiction of the National Capital Region (NCR), a metropolitan government under the MMDA. The MMDA is not a political unit of government, but a development authority likened to a national agency tasked to oversee the delivery of basic services. The power delegated to MMDA through the Metro Manila Council – the MMDA's governing and policy-making body – is limited only to the promulgation of administrative rules and regulations in the implementation of its plans, programs and projects.

For its administrative character, the MMDA chairman is a presidential appointee, with the rank of a cabinet member. One of the chairman's functions is to perform such other duties as may be assigned to him by the President. In essence, the President exercises supervisory authority over the LGUs.

The MMDA has no power whatsoever to enact ordinances, even if it's for the interests and wellbeing of the community. Only the local government units, through their respective legislative councils, have such legislative and police authority, which is along the lines of local autonomy as provided for by the Local Government Code.

### **6.1.2 Existing Organizational Structure of Quezon City Government**

The present organizational set-up of the local government of Quezon City is comprised of two (2) distinct branches – the Executive and the Legislative. (*See Figure In-1 for the existing QC government organizational structure*).



The position of Assistant Secretary to the Mayor was renamed as Assistant Secretary to the Mayor for Internal Affairs, while another position, that of the Assistant Secretary to the Mayor for External Affairs, was also created under Council Ordinance 154 -S-90, Sec. 7.

The positions of the City Administrator, Secretary to the Mayor, and Assistant Secretary to the Mayor for Internal and External Affairs are co-terminus with the appointing power. Other co-terminus positions are that of the City Legal Officer, and Head of the Department of Public Order and Safety (DPOS).

### The Legislative Branch

Another structural change in the city was undertaken by virtue of RA 10170 dated 02 July 2012 apportioning its second legislative district, giving rise to two (2) additional districts and twelve (12) Sangguniang Panglunsod seats. Because of said Act, the city currently has six (6) legislative districts, six (6) district representatives, and thirty-six (36) city councilors.

The City Council – the city’s legislative body – is composed of the vice-mayor as the presiding officer, the 36 regular council members, and the presidents of the city chapter of the Liga ng mga Barangay and of the Sangguniang Kabataan. The Office of the Vice Mayor has also supervisory control over the following special projects (*See Table In-1*):

**Table In-1: Special Projects Supervised by the Vice Mayor**

Project Title	Project Description/Objectives
Quezon City Drug Treatment and Rehabilitation Center (TAHANAN)	Takes charge of the treatment and rehabilitation of drug dependents, whether on voluntary or compulsory confinement.
Sports Development Council	Plans and supervises an integrated sports promotion and development program; coordinates with the 142 barangays relative to implementation of sports projects.
Task Force Greening	Extends assistance through livelihood projects that will provide job opportunities and income for the families of Quezon City.
QC Anti-Drug Abuse Council	Prepares/formulates plans and programs to minimize, if not eradicate drug abuse and implements a comprehensive drug rehabilitation program
Healthy Cities Initiatives Program	Prepares plans and programs for the Quezon City Healthy Cities Initiatives consistent with the WHO guidelines and the National Health Cities Initiative Committee.
Performing Arts	Plans and implements trainings/projects and activities that promote various disciplines of performing arts for the city’s talented youth.
Legislative Investigative Action Group	Compiles and categorizes all ordinances with penal provisions and disseminates the same to all Quezon City-based establishments, law enforcement agencies and all barangays.

<p>Quezon City Film Development Commission</p>	<p>Develops and implements incentives and awards for producers, script writers, cinematographers, and the like to encourage production of quality films; encourages and undertakes activities to promote development of local film industry and participation in both domestic and foreign markets; develops and promotes programs to enhance skills and expertise of Filipino talents in the film industry; undertakes the annual Quezon City Film Festival; prescribes the procedures for the exercise of the Quezon City Film Foundation; determines the organizational and staff pattern of both the Commission of the foundation; and performs such other functions as may be necessary to carry-out the provisions of the ordinance.</p>
<p>Computerization Unit</p>	<p>Administers the data banking of all approved ordinance/resolutions of the City Council, and implements the IT development of the Legislative Department</p>
<p>Special Investigation Committee on Administrative Cases Against Elective Barangay Officials</p>	<p>The Committee shall receive and evaluate all the evidence/s presented; listen to the testimonies of the parties and their respective witnesses; if any, prepares and submit its report in the form of a resolution, stating clearly and distinctly the facts and the law on which it is based, its findings, conclusions and recommendations, to the City Council, thru the City Secretary.</p>

### 6.1.3 QC Government Manpower Complement

As of December 2018, the Quezon City government uses the services of a total of 16,326 personnel broken down under the following types and of employment status:

**Elective** - These are city officials elected by the qualified voters during election period and who shall hold a term of three (3) years but shall not serve for more than three (3) consecutive years in the same position. They are the City Mayor, City Vice Mayor, the 36 regular members of the City Council and the two sectoral representatives from the youth and the association of barangay captains (ABC). These add up to 40 elective officials.

**Permanent** - Issued to a person who meets all the minimum qualification standards of the position to which an employee is being appointed, as prescribed by the Civil Service Commission (CSC). A personnel holding this nature of appointment enjoys security of tenure and all benefits accruing to permanent government employees. The city government has roughly 5,345 employees with permanent appointment.

**Temporary** - Issued to a person who meets the education, skills and experience requirements to the position to which the employee is being appointed. The appointee, however, has to complete a 12-month period before recommended to permanent appointment. There are more or less 125 of this kind.

**Co-Terminus** - Issued to a person whose admittance and continuity in the service is based on the trust and confidence of the appointing authority. The term of the City Legal Officer, the City Administrator, Secretary to the Mayor, Head of the DPOS, and Confidential Secretary are all co-terminus with the appointing power. The staff of the City Council is also co-terminus with the term of

the city councilors. There are just about 218 co-terminus employees currently working in the city government.

**Contractual** - This refers to employment where the contracts of services are not covered by the civil service laws but covered by Commission on Audit (COA) rules. Contractual services rendered are not considered government services. The executive branch has something like 6,702 contractual personnel presently employed in support of special projects, various task forces, committees and several line departments or offices, which also provide work for this kind of appointment, while the legislative branch has a total of 3,416. As of December 2018, contractual personnel are calculated at 10,118.

**Consultant** - Issued to a person with technical expertise essential to a service. At present, the city has approximately 480 consultants. (See Table In-2 & Fig. In-2)

**Table In-2: Manpower Complement;  
QC Government 2016-2018**

Type of Appointment	2016	2017	As of December 2018
Elective	40	40	40
Permanent	4,603	4,747	5,345
Temporary	79	95	125
Co-Terminus	235	237	218
Contractual (Executive)	6,124	6,294	6,702
Contractual (Legislative)	3,311	3,414	3,416
Consultant	421	475	480
TOTAL	14,813	15,302	16,326
No. of Plantilla Positions	8,104	9,134	8,894
No. of filled up Positions	4,957	5,119	5,728

Of the 8,894 plantilla positions, 5,728 are filled-up at this point even as 3,166 are still vacant. Of the filled up slots, 3,057 are males (53.37%) while 2,671 are females (46.63%).

As a government unit, the Quezon City government operates in accordance with existing laws or guidelines on managing and developing human resources, as prescribed by the CSC, particularly the Omnibus Rules/Implementing Book V of Executive Order No. 292.

### **Classification of Manpower Support**

The present-day manpower support in the city government has been classified according to functional hierarchy:

**Executive/Managerial.** This is the top level executive group performing primarily management functions. This is where policies and objectives that guide the behavior and actions of the various departments and offices of the entire organization originate. The group is composed of elected officials and heads of the various departments and offices in control of the most important components in the organizational structure. About 119 are included in this category with salary grade of 25 to 30.

**Second Level.** This group coordinates and supervises staff activities of their respective workplaces. It is responsible in enforcing proper performance of their delegated functions so as to achieve the thrusts and objectives of the office or unit and ultimately of the entire organization. Assistant office heads, chiefs of other special operating units, division and assistant division heads, and section chiefs are bracketed together in this ranking, whose salary grade is 18 to 24. Personnel under this level totals 3,756.

**First Level.** All positions with salary grade 17 or less belong to this grouping. There are a total of 4,975 workforces under this category that includes technical people in charge of translating city plans, programs and projects into implementable forms through research and development. This set of skilled individuals is made up of urban planners, statisticians, researchers, computer programmers, analysts, and the likes. Also comprising this grouping are members of the administrative and/or support staff involved in providing clerical, general services, security, transport, and area maintenance, which is composed of positions such as staff aides, clerks, drivers, security guards, among others.

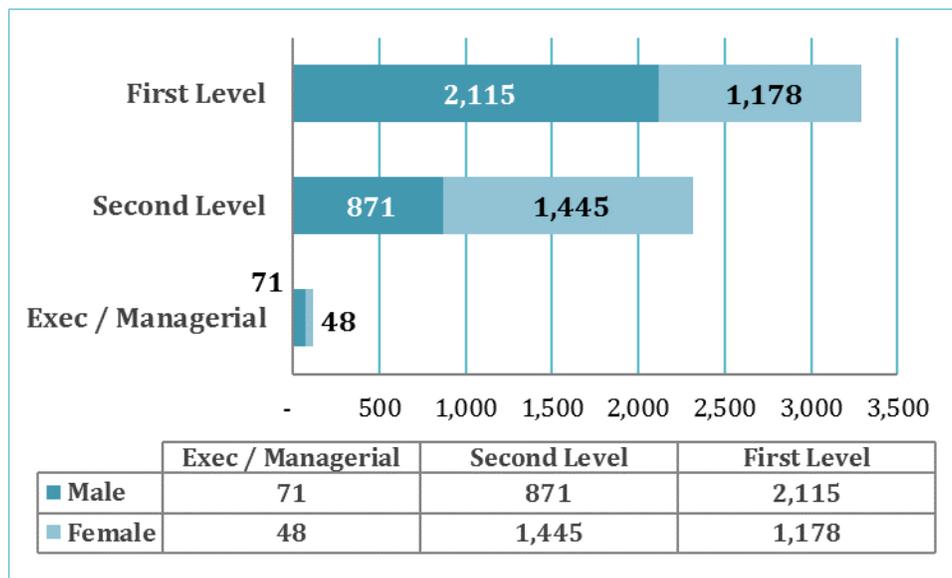


Figure In-2: Manpower Complement: QC Government, 2018

### 6.1.4 Physical Plant and Facilities

The head offices of the local government of Quezon City are found inside the QC Hall Complex located at Elliptical Road, Barangay Central in Diliman though some departments and offices operate sub-offices, branches and stations in various parts of the city.

The main city hall building is a 14-storey structure built during the term of the late Mayor Norberto S. Amoranto and was inaugurated on 01 January 1972.

In the year 1981, a fire gutted the three-storey left wing of the QC Hall destroying approximately Php10 million worth of property. On 11 June 1988, another fire razed the main

building from the 7th to 14th floors causing property damage of about Php240 million. The main building was again hit by fire on 07 August 1998, ruining the fifth floor and slightly affecting the fourth and sixth floors as well. On 06 May 2009, another fire hit the south wing housing the accounting, fiscal and administrative units of the City Treasurer's Office. At present, the main building is undergoing structural retrofitting and being renovated.

Major developments are also taking place in the complex. A total of fifteen (15) new buildings have been constructed or undergoing construction which hold a number of offices, including the Disaster Risk Reduction and Management (DRRM) and Department of Public Order and Safety (DPOS) Building and the three-storey Civic Center Building C where the City Civil Registry Department (CCRD), the Housing Community Development and Rehabilitation Department (HCDRD) and the Task Force Control Prevention and Removal of all Illegal Structures and Squatting (TF-COPRISS) are to be found. All these offices are transacting heavily with the public.

The Civic Center D, also called as Building Regulatory Office, is where the Department of Building Official (DBO), City Planning and Development Department (CPDD), the City Architect Department, and the Environmental Protection and Waste Management Department (EPWMD) are all situated. The New Justice Hall Building and the National Agency Building, which housed select national and regional offices operating in the city, like the National Bureau of Investigation (NBI), the Quezon City Police District (QCPD), and the Department of Interior and Local Government (DILG)-NCR, among others.

The new state-of-the-art City Library in front of the Main Building has become very useful in the research works of our students, young and old. The City Hall Parking in the compound is also now operating and serving both the city taxpayers and employees. The office of the Social Services Development Department (SSDD), the Health Department Building, the QC Convention Center, and the Finance Building where the finance-related offices will be sited are still undergoing construction.

Residents of Districts II, V and VI are also being served through a "Mini City Hall" – the Novaliches District Center (NDC) – which houses the following local government agencies:

- City Treasurer's Office (CTO)
- Business Permits and Licensing Department (BPLD)
- Liquor Licensing Regulatory Board (LLRB)
- City Health Department
- Tricycle Regulatory Unit (TRU)
- Disaster Risk Reduction and Management Office (DRRMO)
- Market Development and Administration Department (MDAD)
- Office of Senior Citizen Affairs (OSCA)
- City Engineering Department
- Social Services Development Department (SSDD)
- Parks Development Administration Department (PDAD)
- City Civil Registry Department (CCRD)
- Public Employment Service Office (PESO)
- QC Police Department (QCPD)
- QC Fire Department (QCFD)

### 6.1.5 Management System and Operations

Key innovations conceived, introduced and practiced in different service areas comprised of, but not limited to:

- **Strategic Planning Workshops** – An organization-wide planning workshop participated in by heads of departments and offices, so as to ably assess the city’s action plans and formulate interventions that go well with the needs and expectations of city residents;
- **Clustering of Offices** – This is being implemented to provide the City Mayor with a range of options on what courses of action that can be used to effect closer coordination of offices under her/his general supervision.
  - Governance and Administration
  - Economic Development
  - Security, Peace and Disaster Preparedness
  - Environmental Protection and Climate Change Adaptation
  - Poverty Reduction and Social Development and Welfare
  - Infrastructure, Housing and Urban Planning and Development
- **Regular Conduct of Executive Staff and Management Committee Meetings** - Given the size of QC, the city government officials track the direction as to where the city is going through the weekly consultative meetings. By this, the city executives are regularly kept abreast with programs and developments in other areas of the city government. This also enhances each other’s gains and complements efforts which needlessly waste resources due to duplication. The Management Group, composed of 6-7 top management members, also meets every alternating week, with all opinions and ideas unreservedly discussed and exchanged.
- **Resource Allocation** - Achieving more with less use of human and material resources is an underlying principle of resource allocation efforts of the city government. For instance, a process that guides fuel allocation by the use of fleet card was adopted and, in so doing, minimizing improper use and waste.
- **Systems Improvement** - QC is one of the pioneers to automate its real estate assessment and payment systems, combined with the process for securing business permits. To considerably lessen the time in business processing, operational improvement was adopted using the Business One Stop Shop (BOSS) Center. At the present, the official receipts for tax payment have security features that are hard to counterfeit, which complement the no-nonsense filing of anti-graft cases against erring employees before the Office of the Ombudsman.

The city government oversees and maintains two (2) One Stop Shops:

1. The **Business Permits One Stop Shop (BOSS)** is the integrated location for new business permit applications and for its subsequent renewals. With BOSS, an applicant for a new business makes use of a specific area for the basic requirements for starting his or her business in Quezon City. Through BOSS, the application is processed simultaneously by the Business Permits and Licensing Department (BPLD) for business registration, by the Zoning Administrator for the locational clearance, and by the Bureau of Fire Protection-Quezon City for fire safety inspection.

Also, it is in this place where the applicant pays for all fees and charges, by means of a single Tax Bill, and where he or she receives the corresponding business permit and business plate, as soon as the application is approved. A concierge is readily available to assist first-time applicants throughout the process.

2. The **One-Stop Shop for Construction Permits (OSSCP)** is the centralized center for the processing of construction and occupancy permits for simple structures, such as:
  - a) Structures with floor area of not more than 1,500 square meters;
  - b) Single family dwellings up to three-storeys high;
  - c) Interior renovations inside a building with existing occupancy permit;
  - d) Simple warehouse up to two-storeys high intended for non-combustible materials; and
  - e) Commercial buildings up to two-storeys high.

The OSSCP offers a specialized, all-inclusive application process for locational clearance, fire safety evaluation, building permit, and occupancy permit. The system follows a linear process of evaluation, starting from zoning compliance, to fire safety, and then compliance to the National Building Code. Meralco has a service kiosk adjacent to the OSSCP meant for electrical connection applications.

In an effort to improve OSSCP and expand its coverage to include both simple and complex structures, an upgraded system called the Building Registration One Stop Shop (BROSS) is now being developed by the city government to further accelerate and facilitate the processing of business registration, as well as all construction-related permits, licenses and clearances.

The city government makes the most of a systematic approach for selecting and prioritizing programs and projects, so as to decide on their distribution throughout the city's six districts and for identifying sources of funds. The principle is for a balanced development.

In addition, the following systems improvements were put in place.

- **Quality Management System (QMS-ISO).** This involves improvement of systems in service delivery and efficiency to the level set by ISO toward satisfying the needs and expectations of the QC residents. For complying with the system's requirement, the Revenue Cluster of the Economic Development Sector comprising 15 departments and offices was able to sign up and get hold of ISO 9001:2008 in May 2016. The next round of the planned ISO 9001-2015 certification includes the city hospitals, social services and public order and safety departments as well as the Governance and Administrative Cluster Department. Efficiency and increased productivity while minimizing errors and waste are the key results of the systems' standard.
- **Service Modernization Program.** The city government is now offering the full cycle of electronic payment system for real property taxes and business taxes to make the mode of paying city taxes simple and effortless. This approach provides taxpayers with two (2) choices on how to easily pay their taxes, 24/7 and without going to the city hall. One option is via mobile money payment using G cash and Globe or TM cellular phone lines for real property and business tax payments up to Php100,000.00. Another method is through online payment system available for Landbank and Bancnet ATM and debit card account holders. With this scheme, taxpayers can print electronic

receipts which have been approved by COA. But, for taxpayers who insist on going to City Hall in person, the Treasurer's cashiers are open six (6) days a week to accept payments.

- **eFinancial System.** This is the city government's electronic-based integrated system that links the financial transactions of its key departments rendering financial functions. This system promotes greater transparency and efficiency as well.
- **Enhanced Tax Mapping System.** This makes use of geographic information system (GIS) which results in the systematic management of real property units for taxation purposes.
- **Computerized Health Information Tracking System (CHITS).** An open source electronic reporting and data base management system that makes it easier to generate and maintain health records as well as manage patients' scheduling system at health centers.
- **Retooling and Modernizing the Bureaucracy.** In an effort to further improve its public service performance, the city government remains committed in relentlessly retooling its human resources and reconfiguring its organizational units by means of the following initiatives:
  - Continuing capacity building of city personnel to reinforce their skills and competency through attendance in various trainings, seminars and workshops. Accordingly, management mechanisms and technical know-how were either restructured or enhanced to conform to the present-day needs of the government personnel. With the booming and fast paced evolution of information technology, it is imperative that the bureaucracy sustain the level of information services to step up its capacity and share knowledge with other stakeholders to hold on to its standing in the global map.
  - Rationalization efforts are also underway to bring up to date the city's organizational structure and usher the city's prime movers on the way to 21<sup>st</sup> century organizations. Offices that have undergone rationalization set up as approved by the Department of Budget and Management (DBM) were: the Novaliches District Hospital (NDH); Barangay Community Relations Department (BCRD); City Health Department (CHD); City Planning and Development Department (CPDD); Administration Management Office that was reverted to the Administrative Division under the Office of the Mayor; Small Business Development & Promotion Office (SBDPO); QC Tourism Department; City Civil Registry Department (CCRD); Human Resource Management Department (HRMD); Department of Public Order and Safety (DPOS); Housing Community Development and Resettlement Department (HCDRD); Social Services and Development Department (SSDD); City Architect Department; Business Permits and Licensing Department (BPLD); creation of Green Transport Office; creation of Ophthalmology Department and Human Milk Bank at the QC General Hospital; QC Public Library; Information Technology and Development Department (ITDD); Public Affairs and Information Services Department (PAISD); Procurement Department; Public Employment Services Office (PESO); Levels 1 & 2 of the Rosario Maclang Bautista General Hospital; and QC Disaster Risk Reduction and Management Office (QCDRRMO). Offices submitted for approval by the DBM are the City General Services Department (CGSD) and the Department of Building Official. Offices with approved Ordinances are the QC Youth and Development Office, City Legal Department, QC University (QCU) and the Environmental Protection and Waste Management Department (EPWMD), while offices that are still for review and evaluation of HRMD are the

Department of Public Order and Safety, QC General Hospital, Department of Engineering, QC Health Department and the City Treasurer's Office.

- Policies are updated and standards are localized, such as those embodied in the New Market Code, Veterinary Code, Sanitation Code and Building Code to fine-tune these relevant legislations to changing times.

**Table In-3: Awards Received: Quezon City, 2016-2018**

2016	2017	2018
<b>Winning Excellence Award</b> given by the Asian Hospital Management Awards to the Quezon City General Hospital	<b>Top Performing Local Government Unit in NCR</b> , according to the 2017 Local Peace and Order Council Audit	<b>First among all Local Government Units in NCR</b> , given by the DILG, based on the LGU Compliance Assessment evaluating the progress of compliance of all LGUs within the Manila Bay Region to the standing mandamus ruling of the Supreme Court for the clean-up, rehabilitation, and preservation of Manila Bay
<b>First eGov Award for Digital Finance</b> at the 8th National ICT Summit organized by the National ICT Confederation of the Philippines and the Department of the Interior and Local Government (DILG)	<b>OpenGov Recognition of Excellence Award</b> at the Philippine OpenGov Leadership Forum 2017 conferred by Singapore-based OpenGov Asia, which has initiated a series of awards for the public sector in ASEAN, for leaders who are leading their localities through digital transformation	<b>Gold Awardee</b> in the 2018 Anti-Drug Abuse Council Performance Award
<b>Most Business Friendly Local Government Unit (Level 1 – Highly Urbanized City)</b> from the Philippine Chamber of Commerce and Industry	<b>Seal of Good Local Governance (SGLG)</b> by the Department of the Interior and Local Government (DILG), passing all progressive assessment system adopted by the Department to give distinction to remarkable local government performance across several areas	<b>Seal of Good Local Governance (SGLG)</b> by the Department of Interior and Local Government (DILG), for exhibiting excellence in meeting performance benchmarks in all 7 core areas: financial administration, disaster preparedness, social protection, peace and order, business friendliness and competitiveness, environmental protection, and tourism.
<b>Most Competitive City in the Philippines</b> from the National Competitiveness Council	<b>Most Competitive City in the Philippines</b> given by the National Competitiveness Council, during the 5th Annual Regional Competitiveness Summit. In the 'competitiveness' sub-categories: Quezon City was no. 1 in Infrastructure, and no. 2 in Economic Dynamism, Government Efficiency, and Resiliency.	<b>Most Competitive City in the Philippines</b> awarded by the Department of Trade and Industry (DTI), at the 6th Regional Annual Competitiveness Summit. In the competitiveness sub-categories, Quezon City was no. 1 in Economic Dynamism and no. 1 in Infrastructure

2016	2017	2018
<p><b>First Place, Regional 2<sup>nd</sup> Place -National Gawad Kalasag Award for Best City in Disaster Risk Reduction and Management (DRRM) and Humanitarian Assistance Award</b> for the highly urbanized city category for the Quezon City Disaster</p>	<p><b>Risk Reduction and Management Council, conferred at the 18th Annual Regional Gawad Kalasag in 2017</b>  * Quezon City Department of Public Order and Safety (DPOS) was also named as second best government emergency management team (GEM - urban category)  * Barangay Sto. Cristo in Quezon City was the Best Barangay Disaster Risk Management Committee (urban category)  * Melencio M. Castelo Elementary School in Batasan was the Best School in the Public School category</p>	<p><b>First Place, Regional and National Gawad Kalasag Award for the Best City Disaster Risk Reduction and Management Council in NCR</b>, by the assessment of the National Disaster Risk Reduction and Management Council (NDRRMC) of the Philippines and the Office of Civil Defense (OCD).</p>
<p><b>Quality Management System, ISO 9001:2008 Certified</b></p>	<p><b>Mapagkalinga Award</b> for the Office of Senior Citizens Affairs from the Department of Social Welfare and Development (DSWD)-NCR, for the city government's programs and services for the elderly</p>	<p><b>Quality Management System, ISO 9001:2015 certified</b></p>
<p><b>2nd Place - Best Government Emergency Management Service (Advanced Urban GEMS category) in the National Capital Region</b></p>	<p><b>Apolinario Mabini Award</b>, from the Philippine Foundation for the Rehabilitation of the Disabled, for "exceptional services to the mass of citizens with disabilities within its jurisdiction"</p>	<p><b>Apolinario Mabini Award</b> conferred by the Philippine Foundation for the Rehabilitation of the Disabled (PFRD)</p>
	<p><b>Quezon City Accounting Department</b>, for being one of 2017 Outstanding Accounting Offices evaluated nationwide in terms of quality, timeliness and accuracy of the city government's 2017 financial reports, from the Commission on Audit (COA).</p>	

2016	2017	2018
	<p><b>Multiple awards from the Department of Health for exemplary Local Health Systems and Innovations in providing health services to QC constituents.</b> These are seven (7) awards in the 'Over 1 Million Population' Category - including a Plaque of Appreciation "for QC-LGU's commitment and support in strengthening the health systems within the National Capital Region (NCR) for better health outcomes and quality of life of Metro Manilans"; Outstanding Local Government Unit for unparalleled performance and innovations in the implementation of the National AIDS/STI Prevention and Control Program in NCR, for the implementation of the National Blood Services Program, and for the implementation of the Dangerous Drug Abuse Prevention and Treatment Program; the Purple Ribbon Award for exemplary practices in the implementation of the Reproductive Health and Family Planning Program; and, exemplary performance in the achievement of program goals and targets of the National Tuberculosis Control Program.</p>	
	<p><b>Champion for Best in Government Inter-Operability (G2G) category, and Finalist, for the Seal of Excellence given to private lying-in clinics as the city's Best in Customer Empowerment entry and rCHITS for its Best in Government Inter-Operability entry,</b> at the 6th e-Gov Awards, organized by the National ICT Confederation of the Philippines (NICP), in cooperation with the Department of Interior and Local Government and the Department of Information and Communications Technology.</p>	
	<p><b>First Place, Regional and National Awards for Best City Disaster Risk Reduction and Management Council – Highly Urbanized City Category</b> at the 19th Gawad KALASAG conferred by the National Disaster Risk Reduction and Management Council (NDRRMC)</p>	

2016	2017	2018
	<p><b><i>First Place - Best City Disaster Risk Reduction and Management Council (Highly Urbanized City Category), Best Government Emergency Management Service First Place</i></b></p> <p>QC's Barangay Sto. Cristo was awarded 1st place for Best Barangay Disaster Risk Reduction and Management Committee (Urban Barangay Category) and Melencio Castelo Elementary School was Best Public School 1st place awardee (Urban Category)</p>	

### 6.1.6 The Barangay

The basic political units we know today as “barangays” serve as the primary planning and implementing unit of government policies, plans, programs, projects and activities in the community, as well as the means wherein the collective views of the people may be expressed, crystallized and considered and where disputes may be amicably settled. The barangays emanated from what were then called “barrios” that exist and operate as quasi-municipal entities performing specialized government functions through its “barrio council” and under the supervision of the Mayor. Republic Act 2370 of 21 June 1959, or the Barrio Charter, governed the activities of barrios.

#### Creation of Barangays

During the Marcos era, particularly at some point in the martial law period, barrio assemblies came to be called as citizens assemblies as prescribed by PD 86 dated 31 December 1972. When PD 557 was issued on 21 September 1974, these barrios were renamed as barangays and the Barrio Charter, as amended by RA 3590 of 22 June 1963 was adopted as the Barangay Charter. Prior to PD 86, there are already forty-four (44) barrios existing in Quezon City that were constituted by the then City Council. In 1973, eighty-nine (89) new civic assemblies were formed. Soon after, all of the 133 barrios and civic assemblies were declared as barangays by way of Executive Orders No. 20 to 35, dated 25 June 1975 issued by then Mayor Norberto S. Amoranto in compliance with PD 557.

The boundary descriptions and maps which formed part of said Executive Orders were prepared by the then Quezon City Secretariat on the Delineation of Barangay Boundaries and were presented to the Department of Local Government and Community Development (DLGCD) on 09 December 1975 for confirmation.

Ensuing formation of barangays in the city were either through Presidential Decrees issued from 1978 to 1981 in favor of three (3) barangays, or via Batas Pambansa issued from 1982 to 1984 in support of another three (3), for a total of 139 barangays.

However, given that the entire city was previously covered by the respective territories of the 133 barangays, the newly created ones were merely “carved-out” from those existing. Meanwhile, the area now known as Barangay Payatas was declared as separate barangay from Barangay Commonwealth as a result of a court order rendered by the Quezon City Court of First Instance, Branch 31, on 05 March 1976, hence, is of a special case. Nonetheless, said court order did not define the exact metes and bounds of Barangay Payatas.

The most recent addition to the list is by Ordinance No. SP 439, S-96 dated 10 September 1996 dividing Barangay Pasong Putik into three (3) barangays, namely, Greater Lagro, Pasong Putik Proper, and North Fairview.

At present, the city is made up of 142 barangays, each with a barangay council composed of one (1) Punong Barangay, seven (7) Barangay Kagawads, one (1) Sangguniang Kabataan Chairperson as ex officio member, one (1) Barangay Secretary, one (1) Barangay Treasurer and one (1) Lupon Tagapamayapa. The term of office of all local elective officials is three (3) years but shall not serve for more than three (3) consecutive years in the same position.

These barangay officials are the city government’s presence in communities and the grassroots. These officials are deemed persons of authority in their areas of jurisdiction, being designated by law to take charge of maintenance of public order, protection and security of life and property and preservation of a desirable and balanced environment. With the passage of Local Government Code of 1991, otherwise known as R.A. 7160, the barangays were granted more powers and prerogatives.

In terms of land area, Barangay Bagong Silangan is the biggest barangay with 594.82 hectares, while Barangay Escopa I is the smallest with 1.28 hectares. On the other hand, Barangay Commonwealth has the largest population with 205,324 and Barangay Manga has the least with 1,083 residents.

### **Empowering the Barangay**

Quezon City is the first local government unit to offer barangay officials full fiscal control over their share of real property tax that is given on a quarterly basis as early as 2002. Coordination with the various barangays is being handled by the Barangay and Community Relations Department.

The city government institutionalized measures of good governance for its 142 barangays through Ordinance No. SP-2273, adopting the Barangay Seal of Good Housekeeping in 2014. The evaluation criteria and performance review were done jointly by the city government and the DILG. The best performing barangays in terms of transparency in governance, financial management, and functional barangay-based institutions as well as best practices and innovation were conferred the highest award of Gawad Dangal ng Lungsod. Previous awardees include Barangays Commonwealth, Kaligayahan and San Bartolome, with each given a Seal of Good Housekeeping and a cash incentive of Php500,000.00. The next highest award, Gawad sa Huwarang Pamamahala, was received by seven (7) barangays, namely: Damar; Talayan; Batasan Hills; Bagumbayan; UP Campus; Novaliches Proper; and Sangandaan, with each presented a seal and Php200,000.00 for their respective local development projects. Another major award, Hall of Fame, was conferred to Barangay Greater Lagro in addition to a cash incentive of Php5 million. Special awards were also given out to select barangays such as Best

in Legislative Practices and Innovation (31 barangays), Good Financial Housekeeping (10 barangays), and Most Functional Barangay-Based Institution (3 barangays).

#### Gawad Dangal ng Lungsod Awardees

Barangay	Punong Barangay
1. Commonwealth	Manuel A. Co
2. Kaligayahan	Alfredo S. Roxas
3. San Bartolome	Pascual L. Lamberto

#### Gawad sa Huwarang Pamamahala Awardees

Barangay	Punong Barangay
1. Damar	Edgar C. Tengki
2. Talayan	Jerry L. Ongtauco
3. Batasan Hills	John M. Abad
4. Bagumbayan	Alex Y. Cruz
5. UP Campus	Zenaida P. Lectura
6. Novaliches Proper	Asuncion M. Visaya
7. Sangandaan	Marivic O. Hefti

#### 'Best in Legislative Practices' Awardees

Barangay	Punong Barangay
1. BagongPag-asa	Rodolfo S. Palma
2. Bahay Toro	Dennis A. Caboboy
3. Balingasa	Ma. Teresa V. Montalbo
4. Damayan	Gualberto B. Casaje, Jr.
5. Lourdes	Mary Catherine C. Sioson
6. Maharlika	Isaac C. Tan, Jr.
7. Nayong Kanluran	Eunice C. Bucsit
8. Philam	Simplicio E.J. Hermogenes
9. Salvacion	Danilo B. Soriano
10. San Isidro Labrador	Joselito D. Sahagun
11. San Jose	Mario DR. Alacantara, Jr.
12. Sta. Teresita	Lorenzo S. Reyes, V
13. Sto. Cristo	Rey Mark John C. Navarro
14. East Kamias	Octavio P. Garces
15. Escopa I	Marvin C. Morales
16. Loyola Heights	Darwin B. Hayes
17. Milagrosa	Alejandro H. Cuizon
18. Central	Rosa D. Magpayo
19. Horseshoe	Francisco M. Aguilar
20. LagingHanda	Jose Maria M. Rodriguez
21. Mariana	Regina Celeste C. San Miguel
22. Tatalon	Rodel N. Lobo
23. UP Village	Virgilio S. Ferrer, II
24. Valencia	Ma. Anna DG. Millonado
25. Nagkaisang Nayon	Feliciano F. Dela Cruz
26. Pasong Putik	Evangelina F. Dungca
27. Sta. Monica	Nelson C. Alcantara
28. Culiati	Victor D. Bernardo
29. Bagong Pag-asa	Rodolfo S. Palma
30. Bahay Toro	Dennis A. Caboboy
31. Balingasa	Ma. Teresa V. Montalbo

#### Good Financial Housekeeping Awardees

Barangay	Punong Barangay
1. Lourdes	Mary Catherine C. Sioson
2. Maharlika	Isaac C. Tan, Jr.
3. Manresa	Arturo D. Tambis
4. N.S. Amoranto	Arturo C. De Guzman
5. E. Rodriguez	Marciano R. Buena-Agua, Jr.
6. St. Ignatius	Edwin S. Tansingco
7. Horseshoe	Francisco M. Aguilar
8. UP Village	Virgilio S. Ferrer, II
9. North Fairview	Manuel A. Chua
10. San Agustin	Ramiro S. Osorio

#### Most Functional Barangay Based Institutions (BBIs) Awardees

Barangay	Punong Barangay
1. MatandangBalara	Allan P. Franza
2. Paligsahan	Cecilia S. Tiamson
3. Culiati	Victor D. Bernardo

#### Dangal ng Lungsod Hall of Fame Awardee

Barangay	Punong Barangay
1. Greater Lagro	Leo B. Garra, Jr.

Of the 142 barangays, Commonwealth in District II and Pasong Tamo in District VI have the highest income with Php128.07 million and Php70.39 million respectively, while Barangays Escopa II in District III and Old Capitol Site in District IV have the lowest with Php4,912,729.19 and Php4,8665,378.70 respectively. In terms of share on Real Property Tax (RPT), Barangay Socorro in District III and South Triangle, District IV, have the highest share with Php 25.96 million and Php17.75 million, respectively, while Barangays Payatas in District II and Escopa IV in District III posted the lowest with only Php2,653,402.38 and Php2,655,724.34, respectively. On the other hand, Barangays Commonwealth in District II and Pasong Tamo in District VI got the biggest share on IRA with Php119.52 million and Php62.64 million mainly due to its big population and large area and Barangays Quirino 3-A in District III and Old Capitol Site in District IV got the smallest share, with only Php1.74 million and Php1.71 million, respectively.

Highest			Lowest		
Barangay Income					
Brgy. Bahay Toro	D1	53,244,722.23	Brgy. Nayong Kanluran	D1	6,651,738.31
Brgy. Commonwealth	D2	121,486,282.23	Brgy. Bagong Silangan	D2	58,131,726.45
Brgy. Matandang Balara	D3	53,858,448.08	Brgy. Escopa II	D3	5,018,205.73
Brgy. Tatalon	D4	46,759,924.38	Brgy. Old Capitol Site	D4	5,048,550.58
Brgy. Fairview	D5	43,049,879.85	Brgy. Capri	D5	12,095,826.94
Brgy. Pasong Tamo	D6	67,496,318.10	Brgy. Unang Sigaw	D6	8,496,036.43
Share on RPT					
Brgy. Sto. Cristo	D1	11,367,486.15	Brgy. Alicia	D1	3,129,840.56
Brgy. Batasan Hills	D2	9,606,291.33	Brgy. Payatas	D2	2,911,243.17
Brgy. Socorro	D3	29,392,098.98	Brgy. Escopa IV	D3	2,911,563.85
Brgy. South Triangle	D4	18,432,725.11	Brgy. Krus na Ligas	D4	2,913,801.47
Brgy. Greater Lagro	D5	11,656,420.47	Brgy. Capri	D5	2,952,609.84
Brgy. Apolonio Samson	D6	12,080,969.83	Brgy. New Era	D6	3,334,008.94
Share on IRA					
Brgy. Bahay Toro	D1	40,296,543.00	Brgy. Damar	D1	1,880,280.00
Brgy. Commonwealth	D2	111,157,788.00	Brgy. Bagong Silangan	D2	50,035,650.00
Brgy. Matandang Balara	D3	40,434,363.00	Brgy. Quirino 3-A	D3	1,599,638.00
Brgy. Tatalon	D4	36,048,014.00	Brgy. Old Capitol Site	D4	1,627,980.00
Brgy. Bagbag	D5	32,606,399.00	Brgy. Capri	D5	9,071,937.00
Brgy. Pasong Tamo	D6	58,260,959.00	Brgy. Unang Sigaw	D6	5,004,018.00

Operation of the barangays is being funded from the following major sources (See Table In-5):

**Table In-5 : Barangay Fund Sources**

Sources	Share / Distribution
Internal Revenue Allotment (IRA)	20% of IRA from National Taxes
Community Tax	50% of the community tax collected through the Barangay Treasurer
Real Property Tax (RPT)	30% of the Real Property Tax is distributed among the component barangays a. 50% accrues to the barangay where the property is located b. 50% accrues equally to all component barangays of the city

Quezon City is home to 142 barangays dispersed in the city's six (6) districts. Each barangay has its own barangay hall. Of the entirety, 122 have permanent structures in permanent locations, 17 have permanent structures occupying temporary sites, either in private lands and/or edifices, if not sidewalks and/or creek easements, namely, Barangays Silangan, Socorro, West Kamias, East Kamias, Quirino 2-C, San Roque, Tagumpay, Sacred Heart, Obrero, Pinagkaisahan, Immaculate Concepcion, Kaunlaran, Bagong Lipunan ng Crame, Damayang Lagi, Don Manuel, Doña Josefa and Central. Barangays Paraiso, San Isidro Labrador and Salvacion, on the other hand, are renting a space. (Refer to Table In-6)

**Table In-6: Status of Barangay Halls: QC, 2018**

District	No. of Barangays Per District	No. of Permanent Barangay Hall	No. of Temporary Barangay Hall
I	37	34	3
II	5	5	-
III	37	30	7
IV	38	28	10
V	14	14	-
VI	11	11	-
<b>TOTAL</b>	<b>142</b>	<b>122</b>	<b>20</b>

Source: Barangay and Community Relations Department

### 6.1.7 National Government Agencies

The Local Government Code of 1991 stipulates that national agencies and offices with project implementation functions shall coordinate directly with the local government units in the discharge of such functions to ensure their active participation, both in the planning and implementation of national programs, projects and activities.

For this purpose, the city government exercises close coordination with certain national agencies like DPWH, MWSS and the MMDA as regards their respective plans and projects to be undertaken in the city. This is to avoid overlapping and/or duplication of projects as well as to warrant their efficient and cost-effective implementation.

A number of national government agencies (NGAs) have local/extension offices situated at the QC Hall Complex and providing direct service to the Quezon City government and its residents, as well as the general public. These include the following:

- Regional Trial Court (Department of Justice)
- City Prosecutor's Office (Department of Justice)
- Metropolitan Trial Court (Department of Justice)
- City Auditor's Office (Commission on Audit)
- Civil Service Commission Field Office (Civil Service Commission)
- DILG Field Office (DILG)

- QC Police District (PNP/DILG)
- QC City Jail (BJMP/DILG)
- QC Fire District (with 16 Fire-Sub Stations, DILG)
- Division of City Schools (DepEd)
- Bureau of Immigration (DFA)
- Philippine National Red Cross
- National Bureau of Investigation

Adjudication, controlling, and protective services are just a few types of public assistance made available by these agencies, with their basic services and facilities funded from the share of local government units in the proceeds of national taxes, other local revenues and funding support from the national government (*RA 7160, Sec. 17, 4g*).

## **6.2 GOVERNMENT INCOME AND EXPENDITURE**

### **6.2.1 Government Income**

Sources of government revenue can be classified as regular and non-regular income. Regular income covers traditional sources such as taxation, internal revenue allotment, fees and charges and other receipts. Non-regular income, on the other hand, are sources of financing allowed for LGUs which include credit financing, bond flotation, privatization, among others.

On a nominal basis, total revenue of Php20.2 billion as of the end of 2018 was 96% more than that of the year 2010 level amounting to Php10.3 billion. Throughout the periods 2010-2018, a steady increase in revenues was achieved, with an average growth rate of 10.66%. Considering the post-transition full years of 2011-2018, average incremental rate was 9.04%. The highest annual percentage increase of 16.03% was attained in year 2015, largely attributed to the upsurge of 18.96% in tax collections, specifically business taxes, which went up by 24.46%.

However, the rate of revenue sourcing from taxes slowed in the year 2016 with a mere 3.60% resulting annual increment at its lowest due to the temporary restraining order (TRO) issued by the Supreme Court under G.R. No. 210551. Taxes for socialized housing and garbage fees collection dropped from Php2.39 billion in the year 2015 to Php2.02 billion in 2016.

Gradually though, the last two years of 2017 and 2018 recorded corresponding growth rates of 8.17% and 8.95%, with an observed higher increase of 9.11% in tax revenues. (*See Fig. In-3*)



Figure In-3: Local Government Income Growth: QC, 2010-2018

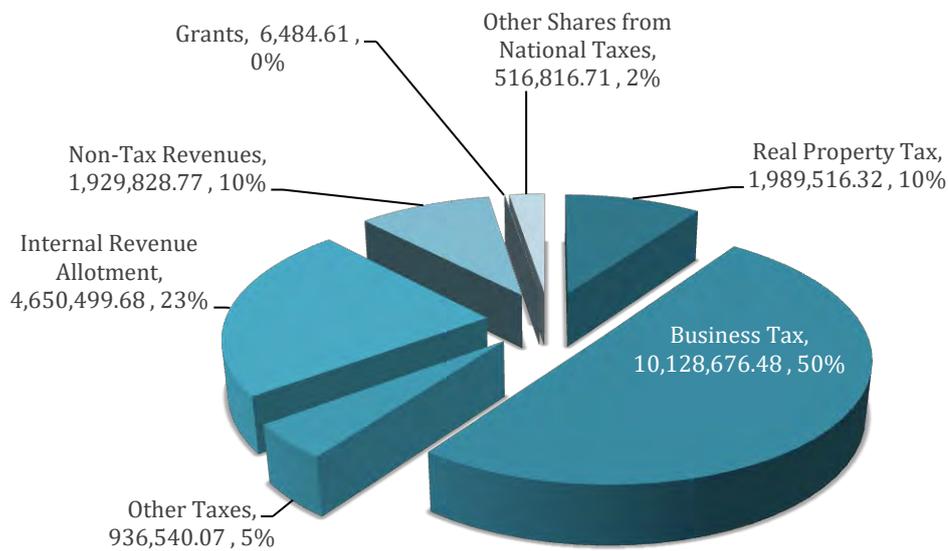


Figure In-4: Local Government Income by Source: QC, 2018

## Government Income by Source

Evidently, tax collections are the highest contributor to the city's revenue bucket, which represent 64.76% of the 2018 total earnings and remain to be the top inflow since 2010. Growth rates were pegged at 11.02% from 2010-2018 and 9.51% in year 2018. Even as income from taxes was high in 2015, a minimal net increase of only 1.61% flowed in 2016 due to the decline of real property taxes. This is the result of the TRO issued by QC courts enjoining the city to cease collecting taxes from socialized housing and garbage fees.

Internal Revenue Allotment (IRA) contributed the second largest revenue source which is on the increase annually at an average of 7.76%. Non-tax revenues also swelled every year by 4.86%. Even with the tax receipts slowdown in 2016, the collection turnout in 2017 and 2018 showed signs of positive momentum with corresponding 4.73% and 9.11% net increase. (See Fig In-3)

Aggregate income of Php20.16 billion gained in the year 2018 registered an increase of 8.95% from the 2017 total earnings of Php18.50 billion. Fund sources were tax revenues (64.76%), IRA (23.07%), non-tax revenues (9.57%), and other external shares (2.60%). (See Fig In-3)

## Real Property Tax

Collections from real property tax, which remained third among the biggest revenue sources of the city, multiplied at an average of 10.14% during the 2010-2018 periods. In 2018, real property tax collections reached Php1.99 billion or about 9.87% of overall city income and recorded a minimal increase of 0.68% compared with the preceding year, 2017. The 9.87% ratio to total income is much lower compared with the percentage to total income since 2010, which ranged from 17.56%.

## Business Tax

Business tax collections are the city's most dominant revenue source with an average growth rate of 17.95% from 2010 to 2018. For the period of 2018, it reached Php10.13 billion or about 50.25% of total city income – an increase of 10.05% from the previous year's Php9.20 billion.

## Other Taxes

*Table In-7: Share to Total Income by Type of Tax*

Type of Tax	Amount	Share to Total Income
Real Property Tax	P1,989,516.32	9.87%
Business Tax	P10,128,676.48	50.25%
Other Taxes	P936,540.07	4.65%

Other taxes include those derived from transfer of real property ownership, professional tax and community tax. Dues collected from these taxes provided the city an average growth of 9.72% during the periods 2010-2018. Throughout 2018, revenues from other taxes reached Php936.54 million, an increase of 19.32% from the 2017 figure of Php784.91 million. The total amount earned from other taxes in 2018 represents about 4.65% of the aggregate city income for the same year.

### **Internal Revenue Allotment**

The internal revenue allotment (IRA) or the city's share in the national revenue taxes amounted to Php4.65 billion in 2018 or about 23.07% of total city income. During the periods 2010-2018, IRA grew by an average of 7.76% annually. Compared with 2017, IRA increased by 7.37% in 2018. From the Php2.73 billion in 2010, IRA swelled by 69.82% in 2018.

### **Non-Tax Revenues**

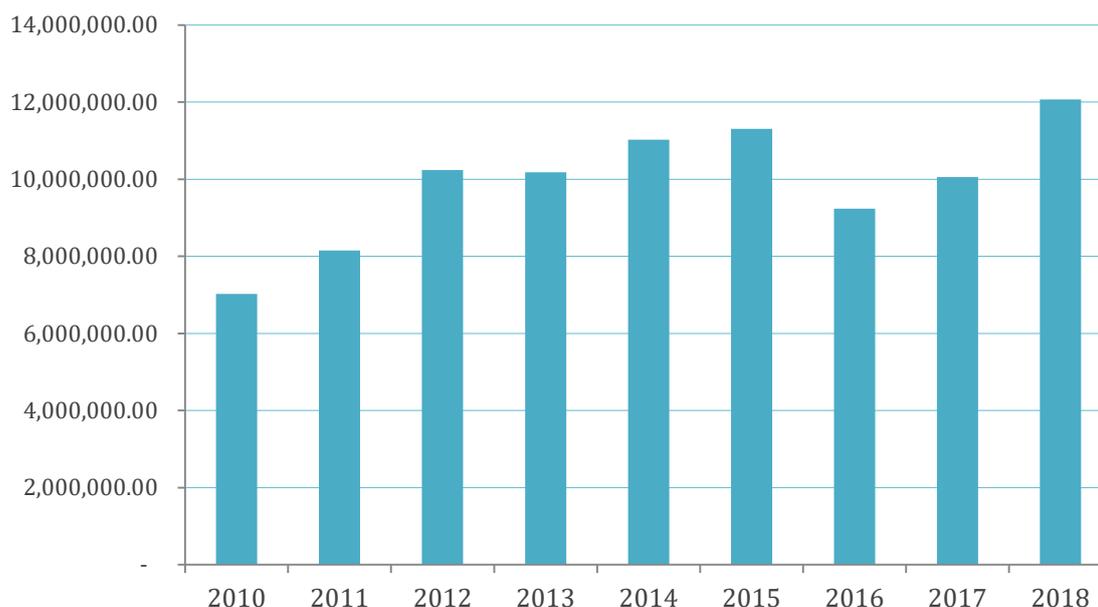
Non-tax revenues or income from regulatory fees, service user charges and receipts from economic enterprises such as the city's markets, reached Php1.93 billion in 2018, an increase of 12.28% from the 2017 figure of Php1.72 billion. Earnings from non-tax revenues comprised about 9.57% of the total city income in 2018 and grew by an average of 4.86% during the periods 2010-2018. It recorded a 43.73% increase from the rate in 2010.

It is worthy to note that throughout the periods 2010-2018, the Quezon City government did not resort to any loans and/or borrowings to run the city.

## **6.2.2 Government Expenditure**

### **By Major Function**

The city's operating expenses increased at an average of 8% each year during the periods 2010-2018. The operating costs of Php12.1 billion in 2018, however, noticeably soared by 20.08% as compared with that of the preceding year's total expenditures of Php10.1 billion. *(See Fig. In-5)*



*Figure In-5: Government Expenditure: QC, 2010-2018*

On an annual basis, the year 2012 recorded the highest percentage increase in expenditures by 25.57%, which was subsequently reversed in 2013 with a net decrease of 0.54%. Comparing 2018 total expenditures with that of 2010 expenses, an increase of 71.89% or Php5.0 billion has been observed. Annual increase in expenditures is at 7.99% from 2010 to 2018.

Since 2010, the city government is putting premium to general public services as well as health, nutrition and population control – the two topmost areas of concern given the biggest fund allocation, and so, entailing the highest expenditure. But, in 2016, projects for housing and community development were allotted a bigger share.

While general services represented 52.60% of total expenditures, its average increase was no more than 0.34% in 2010-2018 and just about 9.15% in 2018. It was on a rising trend from 2010 to 2014 but started dropping moderately in year 2015. Then, it sharply went down by 42.91% in 2016 as funds were purposely shifted to housing and community development. And so, from Php6.2 billion in 2010, the figure at the end of 2018 was registered closely at Php6.3 billion.

Expenditures for health, nutrition and population control grew every year by 41.83% in 2010-2018 but its rise in 2018 from 2017 level was only at 15.06%. These expenses recorded a sharp increase of 177.06% in 2012 until it reached Php1.5 billion in the year 2018 or a leap of 375.7% from a measly Php321 million in the year 2010. Conceivably, this is because of the city's repute as the Health and Wellness Capital of the Asia Pacific region.

Housing and community development's increment rate was tremendously high at 12,129.71% from 2010 to 2018, with the biggest increase of 2,629.35% listed in the year 2016. It amounted to Php2.1 billion or 17.06% for 2018 from Php1.1 billion in 2017 or an increase of 85.71%. This is most likely a result of the city's determination to provide its residents with low-cost and affordable places of abode.

Other city expenditures with less than 10% are the following, in descending order: economic service with 7.34% or Php885.75 million; education, culture and sports/manpower with 6.57% or Php793.13 million; social services and social welfare with 3.56% or Php430.10 million; and labor and employment with 0.21% or Php25.42 million.

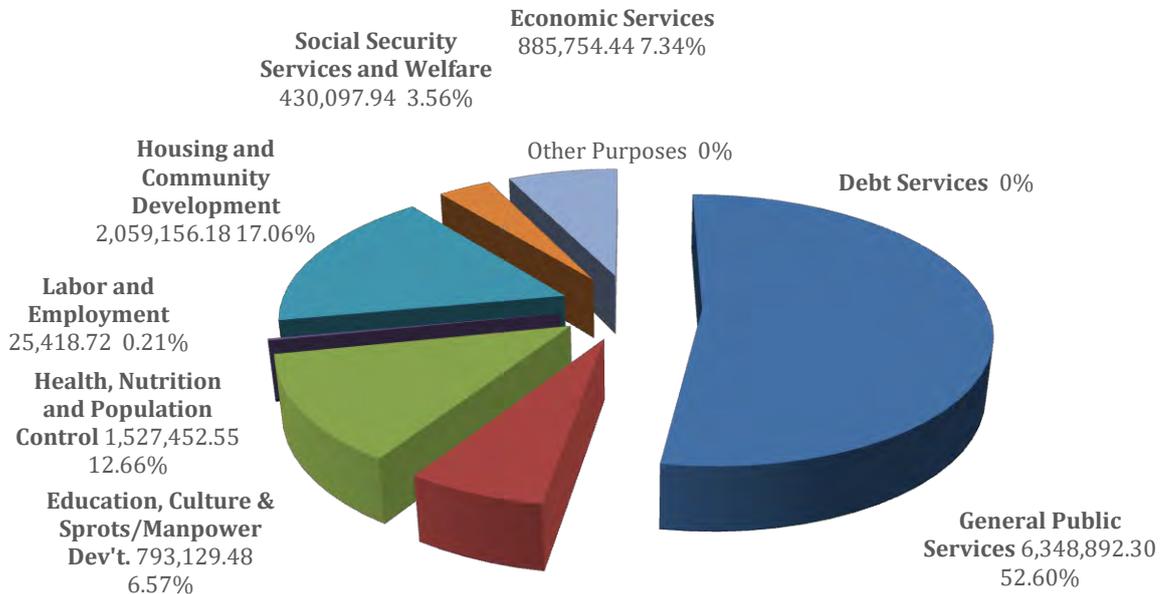


Figure In-6: Government Expenditure by Major Function: QC, 2018

### By Allotment Class/Object

Quezon City's operating costs for the year 2018, classified as to allotment class/object, are as follows:

- Personal Services (PS) – Php3.0 billion;
- Maintenance and Other Operating Expenses (MOOE) – Php8.5 billion;
- Property, Plant and Equipment – Php1.4 billion;
- Lump Sum Appropriations – Php1.7 billion;
- and Statutory Mandatory

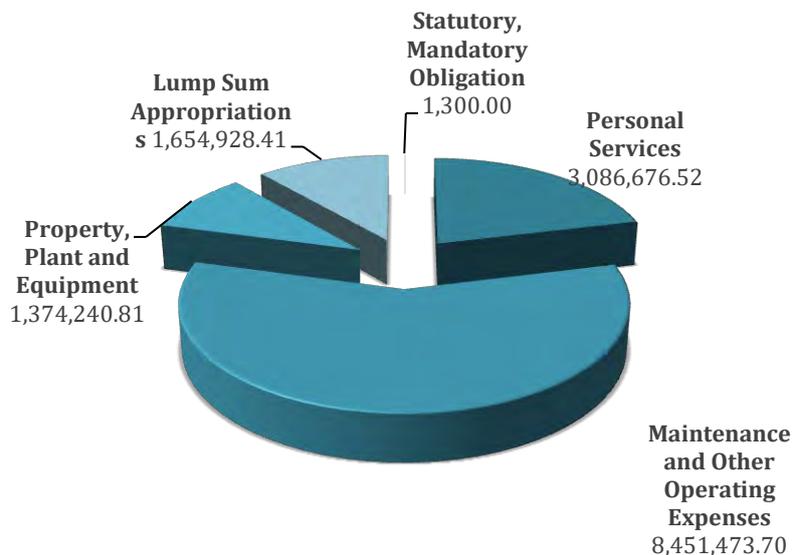


Figure In-7: Expenditure by Allotment Class: QC, 2018

Obligation – Php1.3 million. Figure In-8 shows the percentage components of city expenses by allotment class

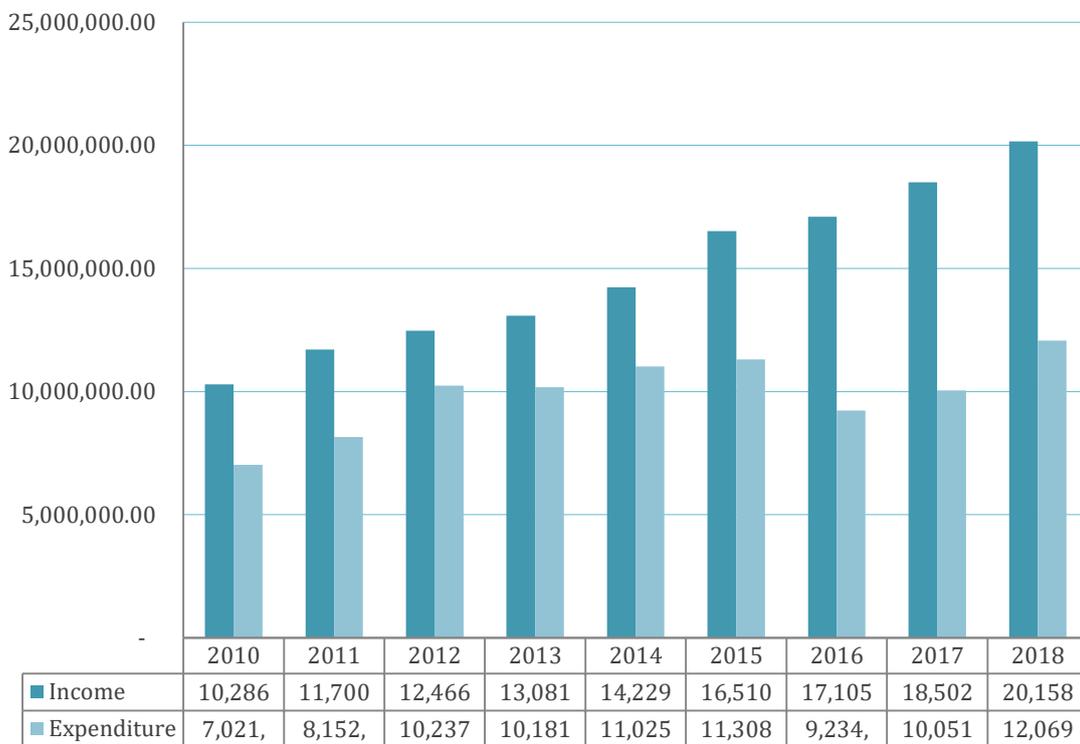
Personal services (PS) amounting to Php3.09 billion posted an increment of Php510 million or 19.79% from the 2017's rate of Php2.6 billion. The components of this expense class include salaries and wages, other compensation, personnel benefits contribution and other personnel benefits. PS registered an average annual growth rate of 13.81% during the periods 2016-2018, indicating that the city operates on a lean but mean organizational set up. It has PS which is way below the allowable expenditure on the same based on the Local Government Code that allows PS to be 45% of its total budget.

Maintenance and other operating expenses (MOOE) of the city increased by Php920 million or 12.22% from Php7.53 billion in 2017 to Php8.45 billion in 2018. Average growth rate posted by this expenditure item is 11.95% during the periods of 2016-2018.

Property, plant and equipment expenditures grew by Php1.37 billion or 100% from 2017, indicative of numerous infrastructure projects implemented in 2018. Property, plant and equipment expenses dropped at an average annual rate of 15.38% during the periods 2016-2018.

Lump sum appropriations, on the other hand, increased by almost Php897.31 million in 2017 or 118.44% from Php757.62 million in 2017 to Php1.66 billion in the current year.

A comparison of income and expenditure for the last nine (9) years, based on figures as presented by the City Treasurer's Office and City Budget Department, is reflected in *Figure In-8*.

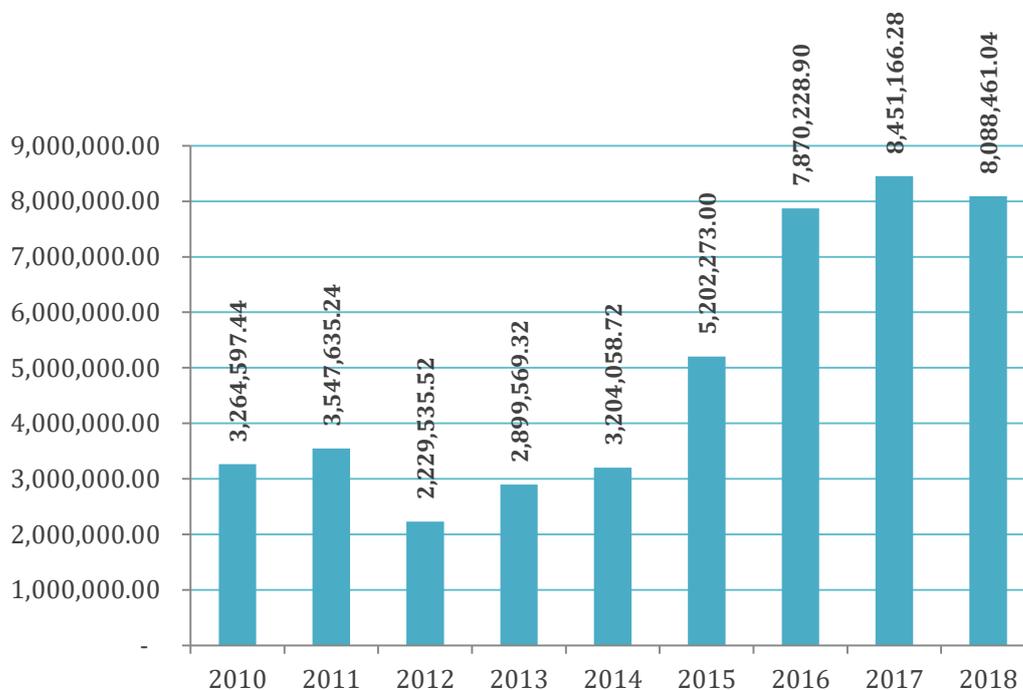


*Figure In-8: Local Government Income and Expenditure: QC, 2010-*

The city averaged a nine (9) year surplus of Php4.97 billion from 2010-2018 with a high of Php8.45 billion registered in 2017 and a low of Pp2.2 billion in 2012. For 2018, surplus is lower by 4.29% as compared to Php8.45 billion in 2017, as a consequence of increased expenditure from PS and MOOE.

The expenditures in 2018, meanwhile, increased by 20.08% or Php12.07 billion from Php10.05 billion in 2017. The lion's share of expenditures was earmarked for general public services, which include salaries and wages, other compensation, personnel benefits contribution and other personnel benefits. In addition to health, nutrition and population control, causal to 2018 expenses comprises education, culture and sports/manpower development, as well as social security services and welfare, along with economic services.

Noticeable from the chart is that the 2018 surplus dropped by 4.29% from Php8.45 billion compared to 2017 figures of Php8.09 billion, even as significant upsurge in the city government's operating costs for 2018 has been noted as compared with the previous year.



*Figure In-9: Local Government Surplus / (Deficit): QC, 2010-2018*

General public service expenditures increased by 9.15% or Php6.35 billion from Php5.82 billion the previous year. Education, culture and sports/manpower development increased by 16.10% or Php793.13 million from P6.83 million in 2017; health, nutrition and population control expenditures by 15.06% or Php1.53 billion from Php1.33 billion; labor and employment expenditures by 25.69% or Php25.42 million from Php20.22 million; housing and community development expenditures by 85.71% or Php2.06 billion from Php1.11 billion; social security services welfare expenses by 12.40% or Php430.10 million from Php382.65 million; and economic services expenditures by 24.33% or Php885.75 million from Php712.42 million.

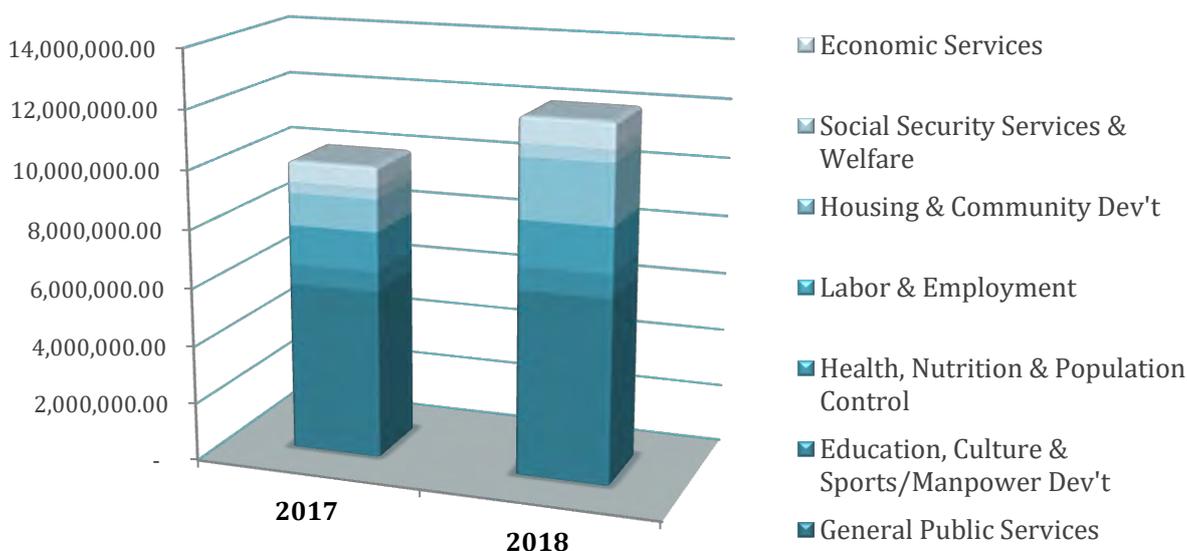


Figure In-10: Comparative Government Expenditure (2017-2018)

### 6.3 LOCAL LEGISLATION

As the legislative body of the city, the QC Council enacts ordinances that would facilitate implementation of social and economic development projects and activities as well as approves resolutions and appropriates funds intended for the general welfare of the city residents.

The Office of the City Secretary serves as the Secretary to the Council, providing legislative, administrative, and secretarial support services to the body. As such, the city secretary is also responsible for documenting and monitoring of all legislative measures and documents, thereby allowing the city government to store and retrieve information regarding its legislative processes.

The thirty-six (36) city councilors have their own specific areas of political jurisdiction designated as Councilor's Area of Responsibility (CAR). There are 36 CARs serving as the extension area of the city mayor, through the city councilors, to facilitate the delivery of basic services to the residents comprising the area.

Table In-8: Brief Profile of Districts

District	No. of Brgys.	Land Area (Has.)	District Population
1	37	1,959.39	406,401
2	5	4,626.52	720,894
3	37	2,184.52	334,821
4	38	2,341.89	456,852
5	14	2,802.57	565,071
6	11	2,197.39	558,654
<b>Total</b>	<b>142</b>	<b>16,112.58</b>	<b>3,042,323</b>

Source: "Actual and Projected Population by District and by Barangay;;QC 2015-2020

Besides, the 36 councilors function as chairpersons, vice-chairpersons and/or members of regular committees at the city council.

## Legislative Outputs

The Quezon City Council, from January 2017 up to December 2018, has passed and approved a total of 986 legislative measures classified into twelve (12) areas for planning purposes. Then again, the classification was further trimmed down to five (5) development sectors.

*Table In-10: Legislative Outputs: Quezon City, January 2017 – December 2018*

	No. of Ordinances	No. of Resolutions
City Properties & General Services, Local Governance and Administration	41	220
Taxation, Assessment, Budgeting & Property Valuation	12	10
Education, Science, Technology, Culture, Tourism and Internal Relations	24	50
Peace and Order, Public Safety, Transportation and Traffic Management	37	45
Public Works, Infrastructure, Building, Zoning, Subdivision & Housing	61	133
Public Health and Social Welfare Services, Senior Citizens, Handicapped People, Women, Family, Domestic Relations & Civil Registration	30	73
Legal Affairs, Justice, Human Rights, Public Information & Assistance, and People's Participation	17	20
Commerce, Industry, Markets, Slaughterhouses, Economic Enterprises, Livelihood and Employment	4	18
Youth Welfare, Sports, Amusement/Entertainment, Games and Drugs	15	67
Barangay Affairs, Urban Poor and Human Settlements	14	20
Parks, Environment and Garbage	2	9
Energy, Water Resources, Public Services, Utilities and Telecommunications	1	63
<b>Total</b>	<b>258</b>	<b>728</b>

*Table In-11 :Legislative Outputs: QC, January 2017 – December 2018*

Sector	Approved Ordinances	% Equivalent	Approved Resolutions	% Equivalent
Social	120	47	255	35
Economic	16	6	28	4
Land Use/Infrastructure	62	24	196	27
Environment	2	1	9	1
Institutional	58	22	240	33
<b>Total</b>	<b>258</b>	<b>100</b>	<b>728</b>	<b>100</b>

## 6.4 PEOPLE'S PARTICIPATION

The Philippine Constitution of 1987 upholds the involvement of people's groups and the private sector at all levels of government. Similarly, it is provided in the Local Government Code (RA 7160, Sec. 3 (I), 34, 35, 36) that local government units promote the establishment and operation of people's organizations (POs) and non-governmental organizations (NGOs) to become active partners in the pursuit of local autonomy.

Sec. 3 (I) RA 7160: "The participation of the private sector in local governance, particularly in the delivery of basic services, shall be encouraged..."

Sec. 34 RA 7160: “Government units shall promote the establishments and operation of people’s and non-governmental organization to become active partners in the pursuit of local autonomy ...”

Sec. 35 RA 7160: “Government units may enter into joint ventures and such other cooperative arrangement with people’s and nongovernmental organizations...”

In the selection of sectoral representatives to the Local Development Council (LDC), organizations seeking representation are supposed to apply for accreditation with the City Council through the Committee on People’s Participation. Only those accredited shall be qualified for representation in the local special bodies.

Nonetheless, there are also non-LDC members that are actively participating in the city’s program/project development such as the ABS-CBN Foundation and GMA Kapuso Foundation, Inc., among others.

Aside from handling coordination works with the POs, NGOs and other community organizations, the city’s BCRD is also tasked to generate feedback from constituents that may help improve local government services.

### 6.4.1 Local Special Bodies

To encourage the public’s involvement in the process of effective governance and development, select POs and NGOs will be represented in the local special bodies to facilitate active participation in the formulation of development plans and investment programs. *(See Table In-12)*

Although the implementing rules and regulations of the Local Government Code includes the People’s Law Enforcement Board as one among the local special bodies, the provision of the Code as to the manner of selecting representatives to the local special bodies does not apply to the PLEBs.

*Table In-12: Local Special Bodies and Their Functions*

Local Special Bodies	Functions
City Development Council	Assists the Sanggunian in setting the direction of economic and social development and coordinating development efforts within its territorial jurisdiction.
City Health Board	Serves as an Advisory Committee to the Sanggunian on health matters and/ or application of local appropriations for public health purposes.
School Board	Serves as an Advisory Committee to the Sanggunian on educational matters and the use of local appropriation
City Peace and Order Council	Formulates plans and recommends measures which will improve/ enhance peace and order and public safety in the local level



**Table In- 13 : CDC Membership in Plenary**

CDC Membership in Plenary	
Chairman	Local Chief Executive
Members	6 District Representatives
	142 Barangay Captains
	At least ¼ of the total membership of the fully organized council representing non-government sectors
	Chair of the Appropriations Committee of the City Council

The accredited organizations adopt their internal rules of procedure to govern the selection of sectoral representatives to the LDC. The designated sectoral representatives are co-terminus with the mandate of the local chief executive. Should a vacancy arise, the selected POs and NGOs shall designate a replacement for the unexpired term.

Through a selection process coordinated by the DILG-NCR, in an assembly enacted for the purpose, the 50 organizations were elected with their duly authorized representative to comprise the 25% requirement of the CDC membership. Majority of those accredited belongs to active urban poor and HOA/neighborhood organizations; hence, they posted the bigger representation. (See Table In-14).

**Table In-14: NGO/PO Representatives to the CDC**

Sector	No. of Representative/s
Urban Poor	12
Cooperative	1
Charitable/Civic	1
Education Academic	1
Livelihood/Vendors	1
Labor/Workers	1
Social Justice/Peace & Order	2
Women	4
Sr. Citizens	6
Youth and Children	1
Business	1
Environment	1
HOA/Neighbourhood	12
Health/Sanitation	1
Social/Cultural Development	1
Transportation	1
Professional	1
Religious	1
Persons with Disability	1
<b>Total</b>	<b>50</b>

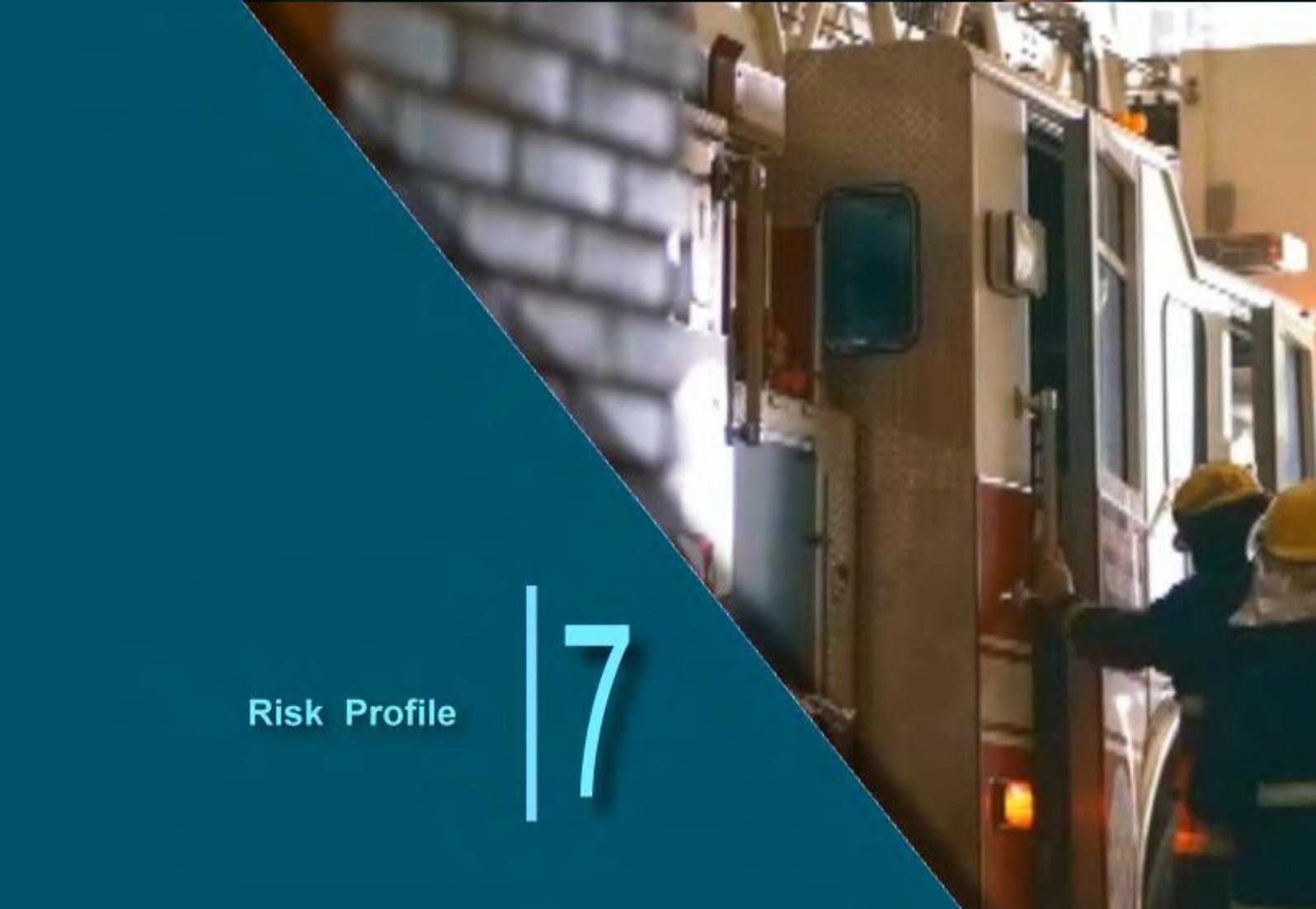
**Table In-15: City Development Council Membership**

Social Development Committee		Economic Development Committee	
Committee Member	Barangay/Organization	Committee Member	Barangay/Organization
Elizabeth De Jesus	Apolonio Samson	Rodrigo A. Corro	Alicia
Crisell Beltran	Bagong Silangan	Catherine G. Maglalang	Balon Bato
Rodolfo Palma	Bagong Pagasa	John M. Abad	Batasan Hills
Alex Y. Cruz	Bagumbayan	Gabriel C. Legaspi	Blue Ridge A
Ma. Teresa V. Montalbo	Balingasa	Sherilyn D. Corpuz	Bungad
Vergilio B. Dela Cruz	Quirino 3-A	Gualberto B. Casaje	Damayan
Christian A. Cando	Capri	Cornelio G. Pabustan	Del Monte
Victor D. Bernardo	Culiat	Rocky DC. Rabanal	Kalusugan
Renato Tanyag	Damayang Lagi	Alejandro Z. Mejia, Jr.	Kristong Hari
Leolibeth S. Daluraya	Escopa III	Leny Leticia P. Glivano	Libis
Laila C. Arcega	Escopa IV	Mary Catherine Sioson	Lourdes
Darwin B. Hayes	Loyola Heights	Isaac C. Tan, Jr.	Maharlika
Perla U. Daniega	Masagana	Arsenia R. Flores	Masambong
Eunice C. Bucsit	Nayong Kanluran	Allan P. Franza	Matandang Balara
Reynaldo B. Ebron	New Era	Alejandro H. Cuizon	Milagrosa
Maria Abigail A. Parwani	Pag-ibig sa Nayon	Asuncion Visaya	Novaliches Proper
Edgardo A. Paragua, Jr.	Paltok	Arturo C. De Guzman	NS Amoranto
Joseph P. Mahusay	Pansol	Manuel N. Guarin	Payatas
Emmanuel A. Pilar	Pasong Tamo	Ritche E. Poblacion	Quirino 2B
Marlon J. Janoras	Quirino 2-C	Orlando P. Casimiro	Roxas
Noel R. Agdeppa	Quirino 2-A	John M. Reyno	San Isidro Galas
Cesar C. Dionisio	Ramon Magsaysay	Mario DR. Alcantara, Jr.	San Jose
Danilo B. Soriano	Salvacion	Iris Ann C. Barcelona	San Martin de Porres
Lamberto L. Pascual	San Bartolome	Emma C. De Jesus	Siena
Daniel Leon S. Berroya	San Antonio	Teodulo O. Santos	Socorro
Telesforo A. Mortega	San Roque	Marlou C. Ulanday	Tandang Sora
Noel F. Vitug	Sauyo	Rodel N. Lobo	Tatalon
Pedro D. Battung, Jr.	South Triangle	YasmineXenelle Jorge	Ugong Norte
Rey Mark John C. Navarro	Sto. Cristo	VirgilioFerrer	UP Village
Sergio Gonzalvo	Sto. Niño	Emiliano R. Lagco, Jr.	Barangay Fairview TODA, Inc.
Zenaida P. Lectura	UP Campus	Amelita R. Ibañez	Batasan Women's League, Angel's Chapter
Roberto Fortuno	Vasra	Emmanuel Solidum	BF Homes, QC Homeowner's Community Assn.
Anthony G. Dacones	West Kamias	Miranda Verdadero	Kapit-bisig QC Vendors Asso. Inc.
Josephine L. Velasco	4Ks Task Force Solo Assn, Inc.	Brian James Lu	National Economic Protectionist Association, Inc.
Emma J. Barja (VC)	Advocates for Human Power and Comm. Devt.	Carlos A. Natavio	People's Consultative Council
Bonjerico L. Untalasco	Alyansa ng mga Kabataan para sa Demokrasya at Kaunlaran	Patricia P. Cabasal	Samahan ng mga Kababaihan sa Area 9 Vet Village P. Tamo, Inc.
Alexander L. Mendoza	Caucus of Persons with Disability Phil., Inc.	Restituto E. Perez, Jr.	Senior Citizen Federation of District II, QC, Inc.
Ma. Teresa G. Margallo	Damayan Ladies Association, District I, Area IV, QC, Inc.	Patricio P. Achas	Welfare for the Community Foundation Inc.
Arlene Anita A. Reyes	Felipe St., Neighborhood Assn., Inc.	Merly Christina Barlaan	Women's Federation for World Peace, Phil., Inc.
Marietta C. Nacional	Konpederasyon ng mga Samahanng NGC East Side		
Teresita B. Monera	Pagkakaisa at Gabay ng Samahan ng HOA		
Marilyn P. Maluping	Samahan ng Magkakapit bahay sa Abbey Rd.		
Sigfredo A. Novila	Samahang Pinagbuklod ng 99 A Sauyo Rd.,		
Eden B. Ruiz	Senior Citizens Association of Vasra		
Romeo F. Alvarez	Unified Senior Citizens Asso. Of D-3, QC,		

Environmental Development Committee		Land Use and Infrastructure Development Committee	
Committee Member	Barangay/Organization	Committee Member	Barangay/Organization
Arsenio De Guzman	Amihan	Richard V. Ambita	Bagbag
Raulito R. Datiles	Bagumbuhay	Dennis Caboboy	Bahay Toro
Mark Anthony L. Escusa	Bayanihan	Ronald N. Tagle	Claro
Esperanza C. Lee	Blue Ridge B	Edgar C. Tengki	Damar
Manuel Co	Commonwealth	Judy A. Concepcion	Dioquino Zobel
Carlo S. De Mesa	Duyan-Duyan	Antonio Calma	Don Manuel
Marciano R. Buena-Agua, Jr.	E. Rodriguez	Louie G. Muñoz	Doña Josefa
Octavio P. Garces	East Kamias	Marvin C. Morales	Escopa
Eduardo M. Zabala	Escopa II	Leo B. Garra, Jr.	Greater Lagro
Jose Arnel O. Quebal	Fairview	Francisco Aguilar	Horseshoe
Rey Aldrin Tolentino	Gulod	Ramon Salas	Immaculate Concepcion
Feliciana B. Ong	Malaya	Alfredo S. Roxas	Kaligayahan
Nenita C. Valdez	Mariblo	Julious C. Secillano	Katipunan
Lawrence V. Tiglao	Paang Bundok	Maria Maurina F. Magalong	Krus na Ligas
Ryan Navero	Paraiso	Jose Maria Rodriguez	Laging Handa
Simplicio Ej Hermogenes	Phil-Am	Arturo D. Tambis	Manresa
Jesus Lipnica III	Pinyahan	Regina Celeste C. San Miguel	Mariana
Vicente Honorio C. Llamas V	Project 6	Feliciano F. Dela Cruz	Nagkaisang Nayon
Edwin S. Tansingco	St. Ignatius	Manuel A. Chua	North Fairview
Jerry L. Ongtauco	Talayan	Evangeline F. Dungca	Pasong Putik Proper
Eric R. Juan	Talipapa	Grazielle C. Saab	Pinagkaisahan
Ma. Anna Millonado	Valencia	Ma. Francesca Camille R. Malig	Sacred Heart
Josefina L. Landingin	Veterans Village	Joselito Sahagun	San Isidro Labrador
Danilo C. Mojica	Villa Maria Clara	Eduardo S. Nieto	Santol
Elmer Timothy J. Ligon	West Triangle	Annabella Curacho	Sikatuna Village
Raymond Moses B. Tenchavez	White Plains	Gary E. Arroyo	St. Peter
Virginia S. Malinao	Botanical Community Organization	Jomar B. Baetiong	Sta. Cruz
Eugenio N. Katigbak	CBE Town Senior Citizens Asso., Inc.	Nelson C. Alcantara	Sta. Monica
Carlito C. Samala	Greater Heights Christian Worship Center	Michelle Ann L. Yu	Sto. Domingo
Henry Asistin	Kapatirang Bayan Bagong Pilipino Foundation, Inc.	Ventura E. Ferreras, Jr.	Tagumpay
Rizza Joy E. Laurea	Order of Triskelion, QCH Chapter, Inc.	Luz P. Savilla	Alyansang Maralita sa Nova, Inc.
Evelyn S. Galang	ROTC Hunters Neighborhood Asso.	Josephine B. Custodio	Arlegui HOA, Inc.
Josebel A. Peralta	Samahan ng Nagkakaisang-Kapitbahay ng Manresa, Inc.	Hubert M. Raymundo	Brgy. Pinyahan Sr. Citizens Asso. Inc.
Elvera Allado	Samcao Block 2 Homeowners Asso.	Vicente R. Puerta	Construction Industry Workers Council, Inc.
Shirlita Flores	Upper Everlasting Block 2	Herminigildo P. Aviles	Kapatiran Kaunlaran HOA
		Romeo Escobar	Magkakasama HOA Inc.
		Renato N. Robel	NFA Multi-Purpose Coop
		Shirley M. Barnedo	Samahan ng Magkakatipuhay ng No. 4 Katipunan, Inc.
		Ma. Theresa M. Nator	United Tribu Block I HOA
		Zacarias P. Asuncion	Urban Poor Alliance of Bgy Nagkaisang Nayon

Institutional Development Committee			
Committee Member	Barangay/Organization	Committee Member	Barangay/Organization
Lottie Gemma D. Juan	Baesa	Ricky B. Lacad	Unang Sigaw
Eleucita T. Feliciano	Bagong Lipunan ng Crame	Ruel S. Marpa	Sta. Lucia
Rosalyn R. Ballard	Botocan	Marivic O. Hefti	Sangandaan
Gregory R. Tolentino	Camp Aguinaldo	Lorenzo V. Reyes	Sta. Teresita
Rosa D. Magpayo	Central	Reynaldo Nitro	Silangan
Zandy A. Zacate	Doña Aurora	Rhodora A. Bohol	Brgy. Paligsahan Sr. Citizens Assn., Inc.
Fernand C. Ubaldo	Doña Imelda	Rachel Martin	Council for the Restoration of Filipino Values
FelicitoValmocina	Holy Spirit	Solita T. Anda	Jubilee East Ville HOA, Inc.
Armida S. Castel	Kamuning	Joven Evangelista	Legal na Ayuda para sa mga Inaapi at Dukha, Inc.
Christopher M. Cheng	Kaunlaran	Marissa A. Cañega	New Sunshine HOA
Cesar R. DelaFuente, Jr.	Mangga	Kevin Agcaoili	Nutrition Foundation of the Phil.
Raul Addatu	Marilag	Rolando P. Montiel	People's Movement for Democratic Governance, Inc.
Jose Segundo	Obrero	Harry D. Francisco	Rising Sun II HOA
Rodelio C. Cabigas	Old Capitol Site	Reynante P. Cunanan	Samahang Makatao at Makatarungang Paninirahan sa NGC Inc.
Cecilia S. Tiamson	Paligsahan	Lottie Gemma D. Juan	Baesa
Ramiro Osorio	San Agustin	Eleucita T. Feliciano	Bagong Lipunan ng Crame
Wilfredo E. Real	San Vicente	Ruel S. Marpa	Sta. Lucia
Lolita Singson	Teachers Village East	Marivic O. Hefti	Sangandaan
Ana Liza N. Rosero	Teachers Village West		

# State-Of-The-Art Emergency Operations Center



Risk Profile

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## CHAPTER 7: RISK PROFILE

### 7.1 HAZARDS

As defined in the QC Disaster Risk Reduction Management Plan (DRRMP) 2014-2020, hazard is a dangerous natural phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihood and services, social and economic disruption or environmental damage. Hazards, both natural and human-induced, happen due to geological, meteorological, oceanic, biological and technological causes and sources, sometimes acting in combination (DILG, 2011).

#### 7.1.1 Meteorological Hazards

Meteorological hazards are weather-related events such as typhoons, extreme rain, floods caused by heavy rains, drought, landslide, sea level rise and extreme temperatures, among others.

##### **Typhoon**

A typhoon is a mature tropical cyclone that develops in the western part of the North Pacific Ocean which is referred to as the Northwestern Pacific Basin and is the most active tropical cyclone basin on earth. Due to its geographic location, the Philippines is one of the most highly exposed countries to typhoons. About twenty (20) typhoons hit the country every year, and majority of these form between the months of June and November while typhoon formation is at a minimum between December and May.

##### ***Typhoon Ketsana (Ondoy)***

In 2009, Typhoon Ondoy, with international name Ketsana, was the most destructive typhoon to hit the Philippines surpassing Typhoon Patsy (Yoling) in 1970. The 2009 typhoon's rainfall was unanticipated and unprepared for which caused widespread flooding in Metro Manila and nearby provinces of Bulacan, Rizal, Laguna and other Southern Tagalog localities. Marikina City was the most devastated in the country as almost all of the city's area was submerged in water up to ten (10) feet deep and knee-deep mud. Then President Gloria Macapagal-Arroyo declared a state of national calamity via Presidential Proclamation No. 1898 to allow officials to utilize emergency funds for relief and rescue. Due to damage and deaths it caused, the names Ketsana and Ondoy were retired. On the Western Pacific Basin, Ketsana was replaced by Champi and PAG-ASA selected Odette to replace Ondoy.

Quezon City was not spared from the devastation brought about by Typhoon Ondoy, as reports obtained from the Disaster Control Division, (DCD) of the city's Department of Public Order and Safety (DPOS) revealed that 6,485 families were affected and were brought to various temporary evacuation centers. DCD also recorded eighty-three (83) fatalities in various barangays while twenty-one (21) individuals were missing.

Table R-1 shows tropical cyclones which affected Quezon City and the rest of Metro Manila from 2006-2018.

**Table R-1: Typhoons that Affected Quezon City and Metro Manila: 2006-2018**

Typhoon (International Name)	Period of Occurrence	Lowest Pressure	Highest Wind Speed	Casualties (Phils)	Damages (Dollar)
Glenda (Rammasun)	Formed: Jul 9, 2014	935mbar(hPa) 27.61 inHg	10-minute sustained: 165 kmh 1-minute sustained:250 kmh	195 fatalities 102 dead	\$7.13B
Basyang (Conson)	Formed: Jul 1, 2010 Dissipated: Jul 18, 2010	970 mbar (hPa); 28.64 inHg	10-minute sustained: 130 kmh 1-minute sustained: 150 kmh	46 missing	\$77.8M
Reming (Durian)	Formed: Nov. 25, 2006 Dissipated: Dec. 6, 2006	915 mbar (hPa) 27.02 in Hg	10-minute sustained: 195 kmh 1-minute sustained: 250 kmh	More than 1,500 fatalities	At least \$530M
Milenyo (Zangsane)	Formed: Sept. 25, 2006 Dissipated: Oct 2, 2006	940 mbar (hPa); 27.76 inHg	10-minute sustained: 155 kmh 1-minute sustained: 230 kmh	At least 310 fatalities	\$750M
Caloy (Chanchu)	Formed: May 8, 2006 Dissipated: May 23, 2006	930 mbar (hPa) 27.46 inHg	10-minute sustained: 175 kmh 1-minute sustained: 230 kmh	309 dead	\$879M
Frank (Fengshen)	Formed:Jun. 17, 2008 Dissipated: Jun. 27, 2008	945 mbar (hPa) 27.91 inHg	10-minute sustained: 165 kmh 1-minute sustained: 205 kmh	At least 1,300 fatalities 87 missing	\$480M
Ondoy (Ketsana)	Formed: Sept.23, 2009 Dissipated: Sept. 30, 2009	960 mbar (hPa) 28.35 inHg	10-minute sustained: 130 kmh 1-minute sustained: 165 kmh	710 fatalities 37 missing	\$1.09B
Mario (Fung- wong)	Formed: Sept. 17, 2014 Dissipated: Sept. 18, 2014	985 mbar (hPa) 29.09 in Hg	10-minute sustained: 95 kmh 1-minute sustained: 95 kmh	21 fatalities	\$75.5M
Lando (Koppu)	Formed: Oct. 12, 2015 Dissipated: Oct. 21, 2015	925 hPa (mbar) 27.32 in Hg	10-minute sustained: 185 kmh 1-minute sustained: 240 kmh	62 fatalities	\$313M
Lawin (Haima)	Formed: Oct. 14, 2016 Dissipated: Oct. 26, 2016	900 hPa (mbar) 26.58 inHg	10-minute sustained: 215 kmh 1-minute sustained: 270 kmh	19 fatalities	\$972.2M

Source: Wikipedia, Rappler

## Habagat

In the past years, rains brought by the southwest monsoon, locally known as Habagat, and enhanced by nearby storms have become as destructive as the typhoons that enter the Philippine Area of Responsibility (PAR). For instance, in August 2012, the Habagat was enhanced by Typhoon Saola (Gener) and strengthened by typhoon Haikui which has not yet entered the PAR. The 2012 Habagat was an almost-a-week period of heavy rain and thunderstorm. Its effect centered in Metro Manila and the surrounding provinces of Region 3 and 4-A. The Habagat in 2012 caused typhoon-like damage similar to what Typhoon Ondoy caused in September 2009.

The heavy rains caused the Marikina River to overflow which triggered a landslide in the Quezon City's Commonwealth area, buried residential structures and killed nine (9) people. The La Mesa Dam came close to overflowing while the continuing rise of water affected the low-lying areas along Tullahan River which caused flooding in some areas in Lagro and Regalado Highway as well as portions of Barangay North Fairview and Sta. Lucia. Losses from Habagat reached almost Php604.63M throughout the country.

In 2013, the country experienced another Habagat, which, while weaker than that of the previous year, was enhanced by typhoon Trami (Maring) and also caused severe flooding which paralyzed Metro Manila and inundated the nearby provinces of Bulacan, Pampanga, Tarlac, Zambales, Bataan, Rizal, Laguna and Cavite. Table R-2 shows comparative data on Typhoon Ondoy, Habagat of 2012 and 2013 in terms of accumulated rainfall, affected population, flooding, etc.

**Table R-2 : Comparative Information on Tropical Storm Ondoy and the Habagat of 2012 and 2013**

	<b>Tropical Storm Ondoy (Ketsana)</b>	<b>Habagat 2012</b>	<b>Habagat 2013</b>
<b>Dates</b>	Sept 24-27, 2009	Aug 6-8, 2012	Aug 17-21, 2013
<b>Highest Measured Accumulated Rainfall</b>	<b>556.1 mm of rain</b> (4-day period) measured in Science Garden, Quezon City	<b>1,007.4 mm of rain</b> (3-day period) measured in Science Garden, Quezon City	<b>1,120.2 mm of rain</b> (5-day period) measured in Sangley Point, Cavite
<b>Affected Population</b>	<b>993,227 families or 4,901,763 persons</b> in 2,018 barangays, 172 municipalities, 16 cities, and 26 provinces in 12 regions	<b>934,285 families or 4,236,151 persons</b> in 2,634 barangays, 175 municipalities, 36 cities, and 17 provinces in 6 regions	<b>689,527 families or 3,096,392 persons</b> in 2,124 barangays, 160 municipalities, 37 cities, and 18 provinces in 6 regions
<b>Evacuation Centers</b>	<b>244 evacuation centers</b> 15,798 families or 70,124 persons	<b>656 evacuation centers</b> 48,784 families or 212,632 persons <i>outside evacuation centers</i> 166,979 families or 776,370 persons	<b>159 evacuation centers</b> 5,761 families or 23,364 persons <i>outside evacuation centers</i> 5,192 families or 26,907 persons
<b>Status of Lifelines</b>	<b>57 roads and 1 bridge impassable to all vehicles</b> in Regions II, III, IV, CAR, and NCR (at the height of the storm)	<b>16 roads and 3 bridges impassable to all vehicles</b> in Regions III, IV-A, CAR, and NCR (as of Aug 17, 2012)	<b>8 roads impassable to all vehicles</b> in Regions I, III, IV-B, and CAR (as of Aug 30, 2013)
<b>Flooding</b>	<b>184 cities/municipalities</b> in 12 regions	<b>59 cities/municipalities</b> in 3 regions	<b>19 cities/municipalities</b> in 3 regions
<b>State of Calamity</b>	<b>23 provinces and Metro Manila</b> Pres. Arroyo declared a state of national calamity via Proclamation No. 1898 on Oct 2, 2009	<b>9 provinces, 12 cities, and 13 towns</b> in 7 regions	<b>5 provinces, 10 cities, 18 towns, and 7 barangays</b> in 5 regions

Source: Rappler

## Flood and Flooding Situation

Flooding is a primary impact brought about by the increased precipitation or extreme weather events such as storms or cyclones.

Quezon City has higher elevation compared to Manila and other Metro Manila cities but it experiences regular flooding despite this physical attribute. The city has undulating terrain and is within the catchment area of five river systems- San Juan River, Tullahan River, Marikina River, Pasig River and Meycauayan River and their tributaries and creeks have a total length of almost 200 km. These river systems receive tremendous amount of water during heavy rainfall and have great potential to flood low-lying areas.

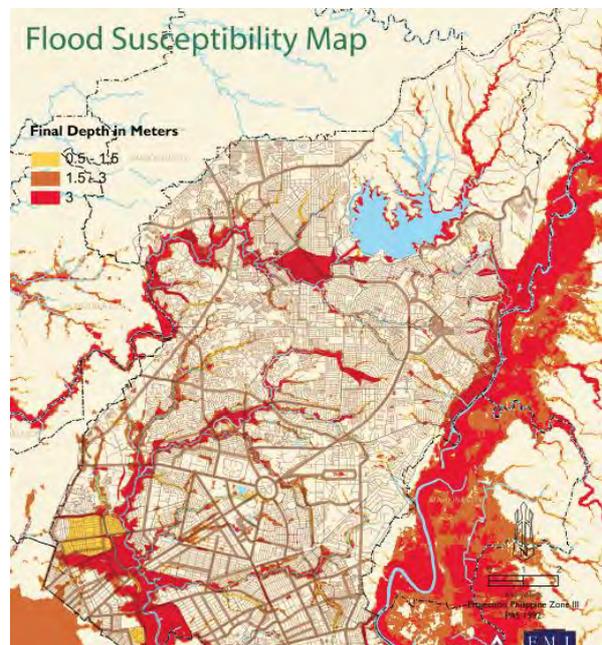
With an elevation ranging from 2 meters above sea level (a.s.l.) in the south near Manila up to 232 meters a.s.l. in the northernmost tip of the La Mesa Reservoir, the City is generally not affected by tidal flooding. The low-lying areas along San Juan River in Barangays Dona Imelda, Damayang Lagi, Talayan, Roxas and Kalusugan are prone to overflow flooding usually when San Juan River backflows from the junction with Pasig River. The areas near Manila like Simon, Maria Clara, Calamba and Cuenco Streets and Matimyas and Mindanao Streets where the Galas drainage culverts are located can also be prone to backflow flooding.

In built-up areas, the local drainage collectors consisting of concrete piped and box culverts empty into the river or creek. The drainage system fails when there is lack of drop-inlets or insufficiently-sized drainage pipes get silted or clogged. This results in flash flooding in many places.

### Flood Risk Assessment

In 2013, the Quezon City Disaster Risk Reduction and Management Council (QCRRMC) in partnership with Earthquake and Megacities Initiatives (EMI) undertook the “Building a Disaster-Resilient Quezon City” Project. Among the outputs of the project are the Hazards, Vulnerability and Risk Assessment (HVRA) Report and the Quezon City Disaster Risk Reduction and Management Plan (QCRRMP) 2014-2020 for managing earthquake and flood risks.

The EMI takes the 100-year NOAA Hazard map as the modelling basis for determining the flood susceptibility of Quezon City. (Refer to Figure R-1)

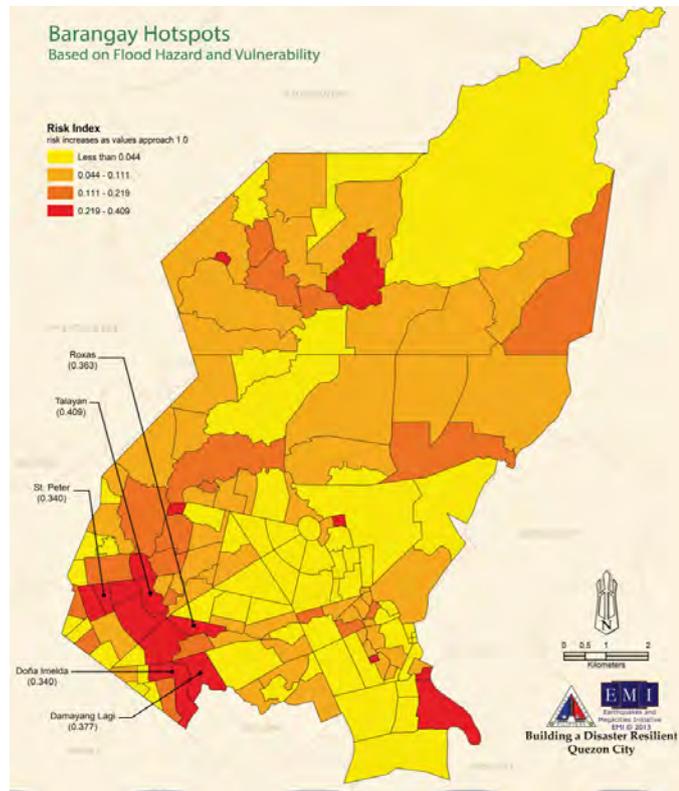


Source: QC DRRMP (2014-2020)

Key findings in the HVRA Report indicated the following:

- The top five (5) barangays needing emergency response are Barangays Talayan, Damayang Lagi, Roxas, St. Peter and Dona Imelda.

- In addition, Barangays Sto. Domingo (Matalahib), Tatalon, North Fairview, Bagumbayan and Dioquino Zobel constitute a second tier for prioritizing emergency management planning and preparedness actions.
- A total of 700,000 residents are estimated to be affected in Quezon City with
  - 16% in low susceptibility areas
  - 30% in moderate flood susceptibility areas
  - 54% in high flood susceptibility areas.
- The top three barangays that have greater than 80% high flood susceptibility area are Barangays Capri, Talayan and Katipunan.
- The Japan International Corporation Agency (JICA) model estimates that climate change can increase the affected areas in Quezon City by 2050 by as much as 7%.



Source: QC DRRM Plan (2014-2020)

### Casualties Caused by Floods

Figure R-2 : Barangay Hotspots Based on Flood Hazard and Vulnerability Population affected by floods

- It is estimated that a 100- year flood will cause 111 casualties in Quezon City.
- Areas which are in a high susceptibility flood zone – inundation depth greater than 200cm – are likely to encounter casualties 2.5 times greater than medium susceptibility areas, with inundation depth between 50cm and 20cm and 5 times greater than low susceptibility areas or those with inundation depth below 50cm.
- The largest number of casualties is expected to be in Barangays Batasan Hills, Tatalon, Sta. Lucia and Bagong Silangan due to these barangays’ higher populations which are affected by high flood exposure levels. These barangays have more informal settlement buildings than the average in Quezon City. This is also probably due to the many informal settlements located near river systems.
- For every 1,500 informal settlement buildings, an average of 1 extra casualty is estimated to occur.
- Thirty percent (30%) of the population of Quezon City is under 15 years old and are at greater risk of becoming a casualty.

### **Population Displaced and Affected by Floods**

- Around 68,619 people are estimated to be displaced.
- The largest number of people displaced are expected to be in Barangays Batasan Hills, Tatalon, Sta. Lucia and Bagong Silangan due to their higher populations which are affected by high flood exposure levels.
- There is one casualty for every 1,000 people displaced.
- Around 700,000 people are expected to be affected with additional people due to possible power or utility issues.

### **Economic Losses**

- Considering a 100-year flood return period, the total economic loss resulting from this study comes out to be USD319 million, of which about USD245 million is capital-stock related.

**Table R-3 : Impact on Critical and High Loss Potential Facilities**

Facility	Top 5 Barangays
Hospitals and Healthcare Centers	Doña Imelda, Damayang Lagi, Kalusugan, Central, Bagumbuhay
Emergency and Rescue Operation Centers	Masambong, N. S. Amoranto (GintongSilahis), Libis, San Antonio, Matandang Balara
High Loss Potential Facilities	Fairview, BagongLipunanngCrame, Bagumbayan, E. Rodriguez, Holy Spirit
Hazardous Facilities	Tatalon, Manresa, Bagumbayan, Sto. Domingo (Matalahib), Talayan
Major Roads	Pag-ibig s aNayon, Commonwealth, Sta. Monica, Capri, Duyan-duyan

Source: QC Disaster Risk Reduction Management Plan (2014-2020)

### **Post-Flood Health Issues - Adapted JICA Outbreak Model**

- High disease incidence rate after a flood combined with systemic failures of healthcare systems and parallel infrastructure such as the water and sanitation system constitute a major vulnerability.
- In 2008, more than 2,089 people were treated for bacterial infection in Manila and in surrounding provinces 162 people have died as a result of leptospirosis infections, more than five times the number of leptospirosis deaths in the entire country (Balbuena et al., 2010).
- Dose-response relationships for the indicator pathogen (E. coli) using different ingestion rates as a function of flood inundation depth and age show that as many as 6,800 people in Quezon City are at risk to gastrointestinal illness via incidental ingestion of flood water.
- People under the age of 15 are at significantly higher risk.

**Table R-4 : Summary of Flood Related Consequences to Sectors**

Core Elements	Primary Hazards Flood Inundation	Primary Damage <i>Building Material Non-structural/ Equipment Primary Loss: Life/Injury, Repair Costs, Function, Communication/Control</i>	Secondary Hazard/Damage <i>Liquefaction, Landslide, Fire, Hazmat, Flooding Secondary Loss: Business/Operations, Interruptions, Market Share, Reputation</i>
Population	<b>66 Barangays</b> District I -20 District II - 5 District III - 11 District IV - 11 District V - 11 District VI - 8 *46% out of 142 barangays	Affected Est. Population: 1.334 M 150 deaths (Based on Ondoy)	
Economic Activity	Novaliches Bagong Silangan Batasan Hills Bagumbayan Sto. Domingo Talayan Del Monte Santol Dona Imelda Damayang Lagi Kalusugan Tatalon Roxas Masambong San Antonio Gulod	Structural Damage Roads & bridges Residential Commercial structures Drainage system Rip-raps	Loss of lives & property Loss of income & livelihood
Access to Income/Service s	<b>Places near Tullahan River</b> Capri Gulod Novaliches Proper Nagkaisang Nayon North Fairview Sta. Lucia <b>Barangays Near San Francisco River</b> Siena Del Monte San Antonio Tatalon Damayan Talayan <b>Barangays near San Juan River</b> Tatalon Doña Imelda Damayan Lagi Roxas Pasong Tamo Culiati Vasra <b>Along Marikina River/San</b>	Displaced Families Casualties	Disease Outbreak

Core Elements	Primary Hazards Flood Inundation	Primary Damage <i>Building Material</i> <i>Non-structural/ Equipment</i> <i>Primary Loss:</i> <i>Life/Injury, Repair Costs,</i> <i>Function,</i> <i>Communication/Control</i>	Secondary Hazard/Damage <i>Liquefaction,</i> <i>Landslide, Fire,</i> <i>Hazmat, Flooding</i> <i>Secondary Loss:</i> <i>Business/Operations,</i> <i>Interruptions, Market</i> <i>Share, Reputation</i>
	<b>Mateo Bridge</b> Bagong Silangan Batasan Payatas Matandang Balara Libis Bagumbayan		
Emergency Management and First Responders	Quick Rise of Flood Water Flash Floods Tatalon - Villa Espana - Araneta Avenue - Victory Avenue Dona Imelda - Kapilingan Street - Betty Go Belmonte Barangay Roxas - Gumamela - Waling-waling Damayang Lagi - Calvary Hills - Area 5	Loss of lives Damage/loss of priorities Roads & Bridges Damage Widespread evacuation Damage to powerlines	Food/medicine shortage Water-borne disease outbreaks Electricity & water supply Contamination of portable water Stranded disruption of essential services (e.g. transportation) Suspension of classes
Institutional and Land Use Administrators	All barangays traversed by rivers & creeks Tatalon Dona Imelda Roxas Tlayan Bagong Silangan Sta Lucia Gulod	Structural damages ISFs Residential Establishments Commercial Establishments Drainage System Ripraps Bridges & Roads Utilities (water & powerlines) Loss of lives, properties & livelihood	Outbreak of diseases Contamination of water supply Disruption of public services, commercial activities

Source: QC Disaster Risk Reduction Management Plan (2014-2020)

**Table R- 5 : Summary of Consequences of Floods to Sector Including Initial Recommendations to Reduce Consequences**

Core Elements	Consequences to Sector of Flood	Initial Recommendation
Population	Affected Est. Population: 1.334 M 150 deaths (Based on Ondoy)	Full implementation of the QC Shelter Program Intercity Flood Control Program Recovery of easements Strict implementation of RA 9003
Economic Activity	<ol style="list-style-type: none"> <li>1. Loss of lives &amp; damage to properties</li> <li>2. Disruption of public services</li> <li>3. Lifeline Disruptions (Communication, water, power)</li> </ol>	<ol style="list-style-type: none"> <li>1. Provision of budget for livelihood (start-up budget for livelihood)</li> <li>2. Trainings for livelihood &amp; income</li> <li>3. Additional rubber boat, generators and relief goods (food, medicine, clothes)</li> <li>4. Provision of evacuation areas</li> </ol>
Access to Income/ Services	<ol style="list-style-type: none"> <li>1. Loss of lives and injuries</li> <li>2. Health and Sanitation</li> <li>3. Livelihood &amp; Shelter</li> <li>4. Lifeline are damaged</li> <li>5. Unemployment</li> <li>6. Mobility and Accessibility</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify relocation sites/evacuation centers</li> <li>2. Community-based trainings DRRM - First Aid Training</li> <li>3. Involve NGOs</li> <li>4. Budget Allocation</li> <li>5. Basic Training, using indigenous materials/resources</li> <li>6. Create livelihood programs for rehabilitation "work for food"</li> </ol>
Emergency Management and First Responders		<ol style="list-style-type: none"> <li>1. Declogging of canals/drainages/river</li> <li>2. Develop protocols on alert levels/ communication during inclement weather (between brgy and QCDRRMC)</li> <li>3. Relocation sites of ISF located along riverways/creeks</li> <li>4. Formulate contingency plan of barangay</li> <li>5. Enhancement training &amp; capacity building of BERT</li> <li>6. Install CCTV &amp; Flood markers to flood prone areas</li> <li>7. Ordinance for force evacuation</li> <li>8. Increase capacity through accredited community</li> </ol>
Institutional and Land Use Administrators	<ol style="list-style-type: none"> <li>1. Structural Damages</li> <li>2. Loss of lives, properties &amp; livelihood</li> <li>3. Presence of informal settlers along rivers &amp; creeks</li> </ol>	<ol style="list-style-type: none"> <li>1. Review &amp; revision of CLUP &amp; Zoning Ordinance</li> <li>2. Locate activities &amp; functions in flood free areas</li> <li>3. Strict implementation of the water code (3-M creek easement)</li> </ol>
Physical Resources	<ol style="list-style-type: none"> <li>1. Water Contamination (waterways &amp; portable water)</li> <li>2. Waste Accumulation</li> <li>3. Damage to parks and wildlife</li> </ol>	<ol style="list-style-type: none"> <li>1. Strict monitoring of compliance of water companies</li> <li>2. Construction of retaining wall &amp; desiltation of rivers</li> <li>3. Strict implementation of waste segregation policies</li> <li>4. IEC on proper waste segregation</li> <li>5. Desiltation &amp; construction of retaining wall</li> </ol>

Source: QC Disaster Risk Reduction Management Plan (2014-2020)

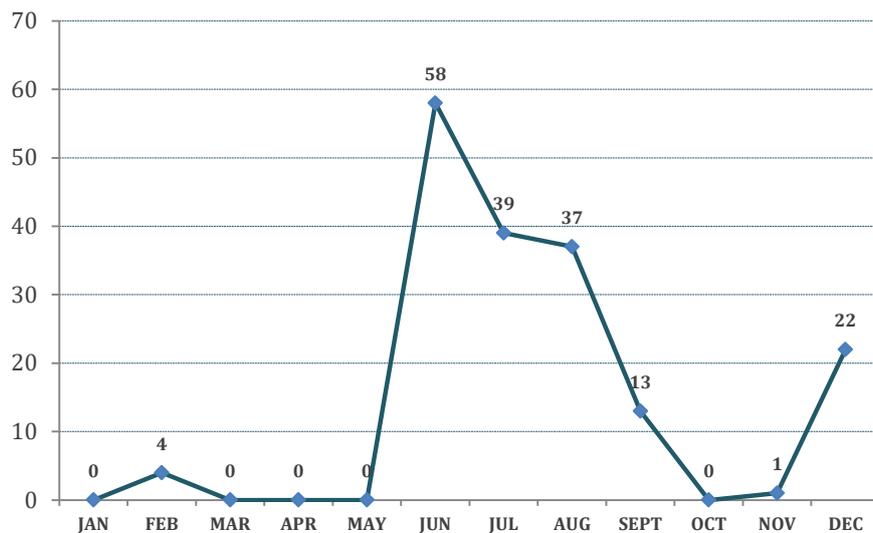
To closely monitor water level during occurrences of flooding, the Disaster Risk Reduction and Management Office (DRRMO) has a systematic early warning systems for specific hazards in the locality that are found useful in preventive efforts at potential hazards. Currently, there are six (6) Automated Rain Gauges (ARG) and eleven (11) Automated Water Level Stations (AWLS) located in strategic locations.

**Location of Automated Rain Gauge (ARG)**

1. Quezon City Polytechnic University, Quirino Highway
2. PAG-ASA, Science Garden
3. Barangay Hall, Barangay San Bartolome
4. La Mesa Dam, Headwork Controller Office
5. Novaliches District Office
6. ASTI DOST, CP Garcia Avenue

**Location of Automated Water Level Stations (AWLS)**

1. G. Araneta Bridge, Araneta Avenue, Barangay Dona Imelda
2. Del Monte Bridge, Del Monte Avenue (BA Bridge)
3. Duyan-duyan Bridge, Xavierville Avenue
4. Panay Avenue, Barangay Pinyahan
5. Quezon Avenue Bridge, Quezon Avenue
6. Maria Clara Street, Barangay Sto. Domingo and Talayan Boundary
7. E. Rodriguez Avenue, Barangay Kaunlaran
8. Aurora Boulevard, Quezon City and San Juan City Boundary
9. Commonwealth Avenue, Barangay Fairview
10. P. Tuazon Boulevard, Barangay Tagumpay
11. Barangay Loyola Heights

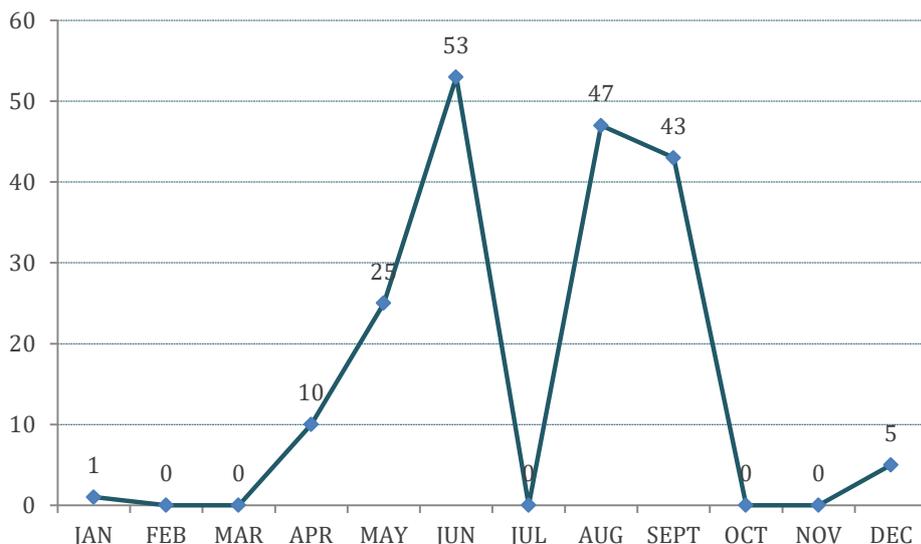


Source: QC DRRMO Accomplishment Report 2018

Figure R-3 : 2018 Monitored Rainfall Events in QC

The City through the Disaster Risk Reduction and Management Office Emergency Operations Center (DRRMO-EOC) also monitors the frequency of rainfall within the City all year round. Figure R-3 shows the frequency of rainfall incidents in Quezon City in 2018. As expected, rainfall was most frequent during the wet season between June to September.

Likewise, DRRMO-EOC also monitors the frequency of thunderstorm incidents which gained momentum from April, peaked in June, and then continued until October in the city.



Source: QC DRRMO Accomplishment Report 2018

Figure R-4 : Monitored Thunderstorm Events: QC, 2018

### Extreme Rainfall and Temperature

Climate change has major long term effects including temperature change, rainfall change, sea level rise and the increase of frequency of extreme events.

Temperature change can be noticed from the increase or decrease of average temperatures resulting in changes in the number of hot or cold days and nights. Rainfall change, on the other hand, means a change of the amount of water that drops into the earth in a year during different seasons such as rainy season which is longer or shorter having an increase or decrease of frequency and intensity. The increase in extreme events is the abnormal weather events that could be identified from storm, extreme heat, drought or heavy rain.

The succeeding data and discussions were taken from a 2011 study of the Department of Science and Technology- Philippine Atmospheric, Geophysical and Astronomical Services Administration (DOST-PAGASA) entitled "Climate Change in the Philippines." The study highlighted key findings of the present baselines on climates, projections of future climates in 2020 and 2050 in the Philippines.

To generate projections of the temperature increase and rainfall change in the Philippines for 2020 and 2050, DOST-PAGASA used the Providing Regional Climates for Impact Studies (PRECIS) Regional Climate Model (RCM). Two time slices centered on 2020 (2006-2035) and 2050 (2036-2065) were used in the climate simulations using three emission scenarios namely: the A2 (high-range emission scenario), the A1B (medium-range emission scenario) and the B2 (low-range emission scenario) defined as:

- The A2 scenario is at the higher end of the emission scenarios and is preferred by most countries because from an impacts and adaptation point of view, if man can adapt to a larger climate change, then the smaller climate changes of the lower end scenarios can also be adapted to.

- The A1B scenario is considered because the future climates in the next 30-40 years will be greatly influenced by past emissions, principally due to long lifetimes of carbon dioxide.
- The B2 scenario representing the low-range emissions, the most unlikely, even if it represents the low end, is the most likely.

The climate trends were analyzed using available observed data from 1951 to 2009 with the average for the period of 1971-2000 as the reference value. The key findings are as follows:

- There has been an increase in annual mean temperature by 0.65 °C.
- In terms of maximum and minimum temperatures, the increases have been 0.36 °C and 0.1 °C.
- Results of analysis of trends of tropical cyclone occurrence within the Philippine Area of Responsibility (PAR) show that an average of twenty (20) tropical cyclones form and/or cross the PAR each year with strong multi-decadal variability and that there is still no indication of increase in the frequency, but with a very slight increase in the number of tropical cyclones with maximum sustained winds greater than 150kph and above (typhoon category) being exhibited during El Niño years.
- The analysis of trends of extreme daily temperatures and extreme daily rainfall indicate significant increase in the number of hot days but decrease in cool night, and those of rainfall (extreme rainfall intensity and frequency) are not clear, both in magnitude and direction, that is whether increasing or decreasing, with very little spatial coherence.

For future climate in 2020 and 2050, outputs of the simulations under the mid-range scenario are used with the following findings:

#### ***Seasonal Temperature Change***

- All areas in the Philippines will get warmer, especially in the relatively warmer summer months.
- Annual mean temperature (average of maximum and minimum temperatures) in all areas in the country are expected to rise by 0.9 °C to 1.1 °C in 2020 and by 1.8 °C to 2.2 °C in 2050.

#### ***Seasonal Rainfall Change***

- Reduction in rainfall in most provinces occur during the summer season March, April and May (MAM) making the usually dry season drier.
- Rainfall increases are likely in most areas of Luzon and Visayas during the southwest monsoon June, July, and August (JJA) locally known as "*Habagat*" and the September, October, and November (SON) seasons, making these seasons still wetter, and thus, with the likelihood of both droughts and floods in areas where these are projected.
- During the northeast monsoon December, January, and February (DJF) season locally known as *Amihan*, rainfall is projected to increase, particularly for areas characterized by Type II climate with potential for more flooding.

### **Extreme Rainfall Events**

- During the southwest monsoon season JJA, larger increases in rainfall is expected in the provinces of Luzon (0.9% to 63%) and Visayas (2% to 22%) but generally, decreasing trend is expected in most of the provinces in Mindanao.

### **Extreme Temperature Events**

- Projections for extreme events in 2020 and 2050 show that hot temperatures (indicated by the number of days with maximum temperature exceeding 35 °C) will continue to become more frequent, number of dry days (days with less than 2.5mm of rain) will increase in all parts of the country and heavy daily rainfall (exceeding 300mm) event will also continue to increase in number in Luzon and Visayas.

### **Climate Projections in 2020 and 2050 in the National Capital Region (NCR)**

Under the same study, climate projections were also undertaken in the 17 administrative regions of the country also using the medium-range emission scenario. Findings for the National Capital Region (NCR) include the following:

The projected seasonal temperature increase (Table R-6), and seasonal rainfall change (Table R-6.1) and frequency of extreme events (Table R-7) in 2020 and 2050 under the medium-range emission scenario in NCR are presented in the succeeding sections.

To use the tables and arrive at values of seasonal mean temperature and seasonal rainfall in 2020 and 2050, the projections are added to the observed values.

For example, in Metro Manila, the projected values in 2020 are:

- DJF mean temperature = (26.1 °C+1.0 °C) = 27.1 °C
- DJF rainfall = {107.5mm+107.5(-12.8%)mm} = (107.5-13.8)mm or 93.7mm
- Number of days with Tmax > 35 °C in Quezon City during the 2006-2035 period (centered at 2020) = 1,984
- Number of dry days in Quezon City during the 2006-2035 period (centered at 2020) = 6,302
- Number of days with rainfall > 300mm in Quezon City during the 2006-2035 period (centered at 2020) = 8.

**Table R-6: Seasonal Temperature Increases (in °C) in 2020 and 2050 Under Medium-Range Emission Scenario in NCR**

Observed Baseline				Change In 2020				Change In 2050			
(1971-2000)				(2006-2035)				(2036-2065)			
DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON
26.1	28.8	28.0	27.4	1.0	1.1	0.9	1.0	2.0	2.1	1.8	1.9

**Table R- 6.1 : Seasonal Rainfall Change (in %) in 2020 and 2050 Under Medium-Range Emission Scenario in NCR**

Observed Baseline				Change In 2020				Change In 2050			
(1971-2000) mm				(2006-2035)				(2036-2065)			
DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON
107.5	198.5	1170.2	758.7	-12.8	-33.3	8.5	0.0	-17.3	-38.5	21.3	3.7

**Table R-7 : Frequency of Extreme Events in 2020 and 2050 Under Medium-Range Emission Scenario in NCR**

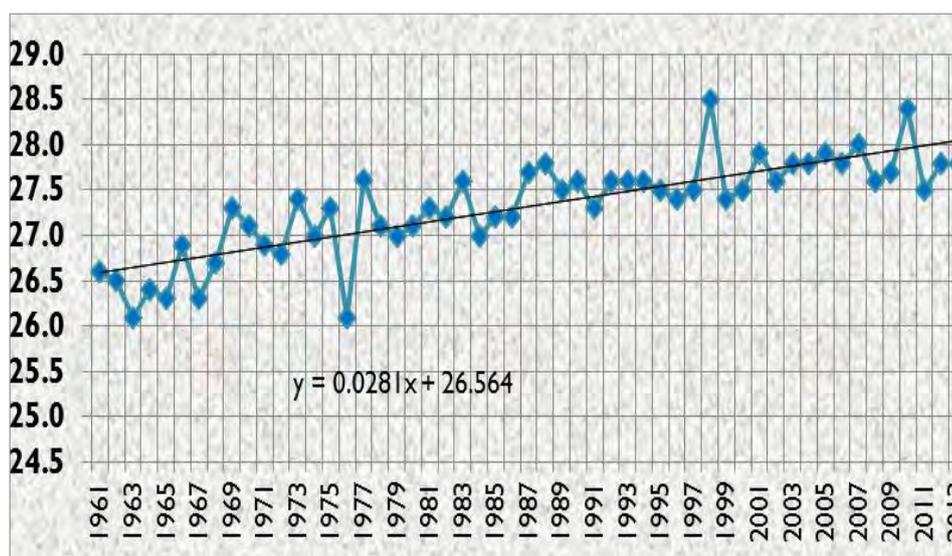
Stations	No. of Days w/ Tmax >35 °C			No. of Dry Days			No. of Days w/ Rainfall >200mm		
	OBS (1971-2000)	2020	2050	OBS	2020	2050	OBS	2020	2050
Port Area	299	1176	2118	7380	6445	6382	12	12	13
Science Garden	1095	1984	3126	7476	6302	6220	9	13	17

Note:

- For Kalookan North, Quezon City, Marikina, Pasig, Taguig, San Juan Mandaluyong, use values of Science Garden.
- For Navotas, Kalookan South, Malabon and Valenzuela, use values of Port Area.
- OBS - Observed Baseline

Data for Quezon City were also obtained from the DOST-PAGASA showing the city’s Annual Mean Temperature, Projected Change in Monthly Rainfall, Projected Change in Monthly Average Mean Temperature, Projected Change in Monthly Average Maximum Temperature, and Projected Change in Monthly Average Minimum Temperature under Medium-range Emission Scenario (A1B). *Figure R-5* indicates that Quezon City had an increase of 1.46 °C from 1961 to 2013 (52 years).

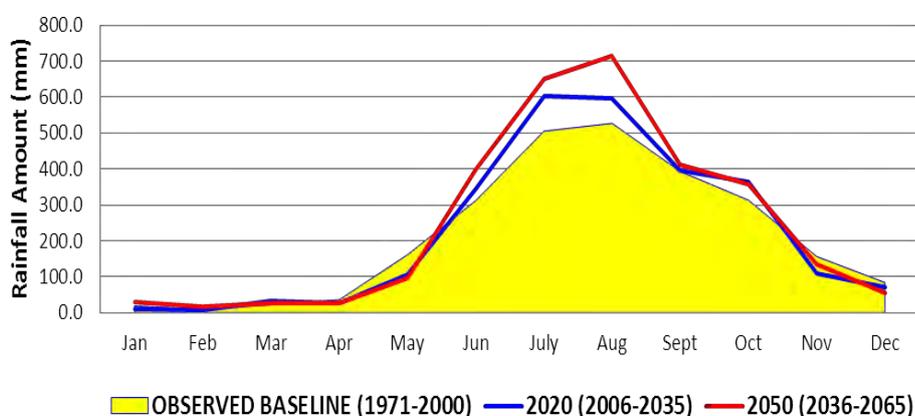
The study shows too that the city will have an increase in rainfall in 2020 and 2050 particularly during the



Source: DOST-PAGASA

**Figure R-5 : Annual Mean Temperature: PAGASA Science Garden, 1961-2013**

wet season (June, July and August). Heavy daily rainfall events or rainfall exceeding 300mm will continue to become frequent in 2020 and 2050 (Figure R-6).



Source: DOST-PAGASA

Figure R-6 : Projected Change in Monthly Average Rainfall (mm) under Medium-range Emission Scenario (A1B); Science Garden, QC

As reflected in Table R-8 and Figure R-7, Quezon City has a projected change in monthly average mean temperature of 0.7 °C to 1.2 °C in 2020 and 1.7 °C to 2.4 °C by 2050.

Table R-8 : Mean Temperature (1971-2000) and Projected Change in Mean Temperature (2020 and 2050); QC

Science Garden								
Month	Mean		Bias	Projected Change (%)		Bias Corrected Projected Change		
	Observed 1971-2000	Model 1971-2000		2020	2050	TMean		
						1971-2000	2020	2050
Jan	25.4	24.8	-0.6	1	2	25.4	26.4	27.4
Feb	26.1	25.3	-0.8	1.1	2	26.1	27.2	28.1
Mar	27.4	26.9	-0.5	0.9	2	27.4	28.3	29.4
Apr	29.1	28.2	-0.9	1.1	2	29.1	30.2	31.1
May	29.5	27.8	1.1	1.2	2.4	29.5	30.7	31.9
Jun	28.6	26.9	1.2	1	1.9	28.6	29.6	30.5
Jul	27.8	26.5	1	0.8	1.7	27.8	28.6	29.5
Aug	27.5	26.4	0.8	0.8	1.7	27.5	28.3	29.2
Sept	27.6	26.2	0.8	0.8	1.7	27.6	28.4	29.3
Oct	27.3	26.3	0.8	1.1	2	27.3	28.4	29.3
Nov	26.7	25.9	1.1	1	2	26.7	27.7	28.7
Dec	25.8	25.4	1	0.7	1.9	25.8	26.5	27.7

Source: DOST – PAGASA



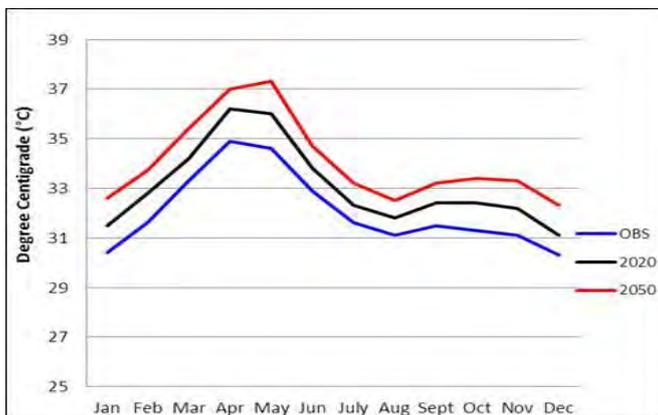
Source: DOST-PAGASA

Figure R-7 : Mean Temperature (1971-2000) and Projected Change in Mean Temperature (2020 and 2050): QC

Table R-9 : Maximum Temperature (1971-2000) and Projected Change in Maximum Temperature (2020 and 2050); QC

Science Garden								
Month	Mean		Bias	Projected Change (%)		Bias Corrected Projected Change		
	Observed 1971-2000	Model 1971-2000		2020	2050	TMean		
						1971-2000	2020	2050
Jan	30.4	28.2	-2.2	1.1	2.2	30.4	31.5	32.6
Feb	31.6	29.4	-2.2	1.2	2.1	31.6	32.8	33.7
Mar	33.3	31.6	0.9	0.9	2.1	33.3	34.2	35.4
Apr	34.9	32.9	1.3	1.3	2.1	34.9	36.23	37.0
May	34.6	31.2	1.4	1.4	2.7	34.6	36.0	37.3
Jun	32.9	29.1	0.9	0.9	1.8	32.9	33.8	34.7
Jul	31.6	28.4	0.7	0.7	1.6	31.6	32.3	33.2
Aug	31.1	28.3	0.7	0.7	1.4	31.1	31.8	32.5
Sept	31.5	28.2	0.9	0.9	1.7	31.5	32.4	33.2
Oct	31.3	29.3	1.1	1.1	2.1	31.3	32.4	33.4
Nov	31.1	29	1.1	1.1	2.2	31.1	32.2	33.3
Dec	30.3	28.4	0.8	0.8	2.0	30.3	31.1	32.3

Source: DOST-PAGASA



Source: DOST-PAGASA

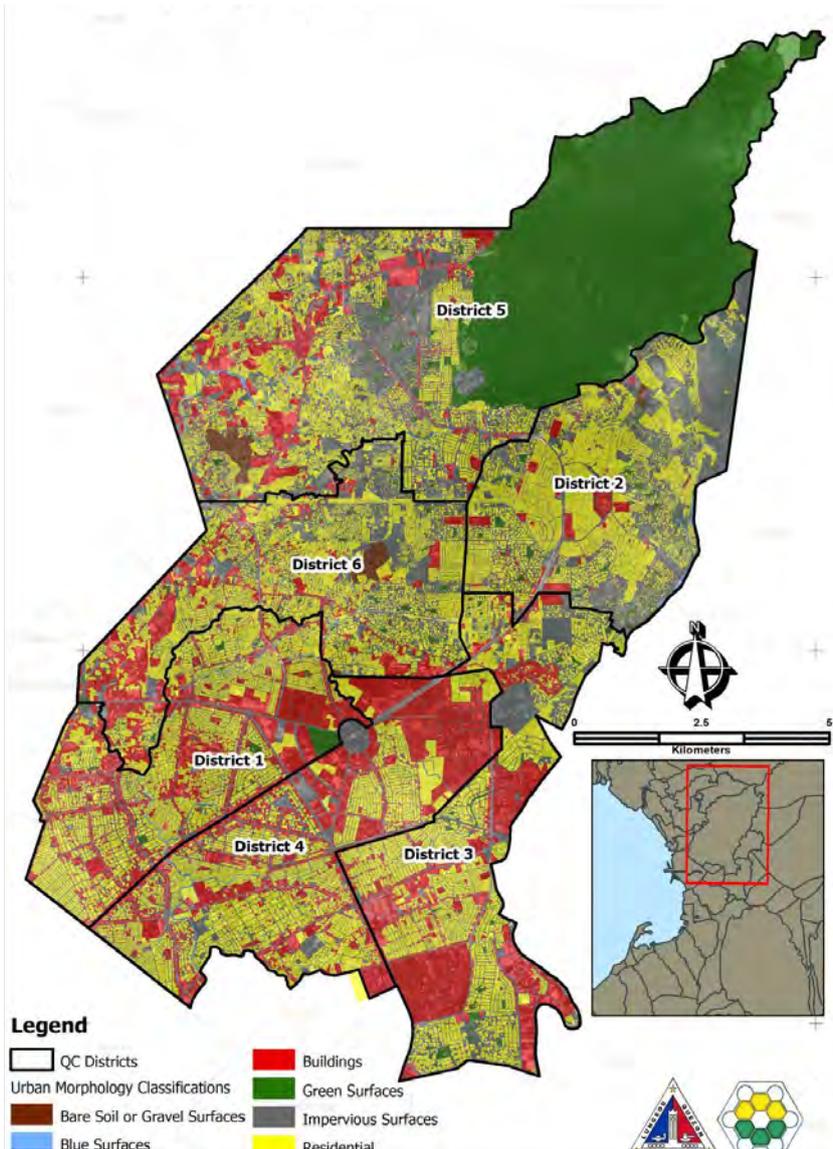
Figure R-8 : Maximum Temperature (1971-2000) and Projected Change in Maximum Temperature (2020 and 2050): QC

The projected Change in Monthly Average Maximum Temperature for Quezon City for 2020 and 2050 is 0.7°C to 1.4°C and 1.6°C to 2.7°C, respectively. There would be an increase in the number of days greater than 35 °C particularly in 2050. (Refer to Table R-9 and Figure R-8)



In 2016, the City Government spearheaded by the Environmental Protection and Waste Management Department (EPWMD) in partnership with the UP Planning and Development Research Foundation, Inc. (UP PLANADES) in a joint undertaking of the “Consultation Services for Building Climate Change Mitigation and Adaptation (CCMA) for Quezon City Stakeholders” Project formulated the Quezon City Local Climate Change Action Plan (QC LCCAP) 2017-2027. The succeeding discussion was derived from the QC LCCAP.

One of the significant outputs in the LCCAP is the mapping of the urban morphology types and the estimation of surface cover of the City as well as the performance of a survey cover analysis. This information is essential for determining the environment performance of the City.



Source: QCLCCAP 2017-2027

Figure R-10: Urban Morphology Type, QC

Figure R-10 shows the city’s Urban Morphology Type while the proportional surface cover types of the city by sub-areas is presented in Figure R-11. It shows that around 53% consist of buildings comprising residential, commercial institutional, recreational or built-up areas, around 27.9% are composed of impervious surfaces due to the presence utilities and vacant lands while around 18.3% consist of green and blue surfaces (evapotranspiring). This would account for the open spaces forest, agriculture and water and 6% consist of cemetery, bare soil or gravel surfaces.



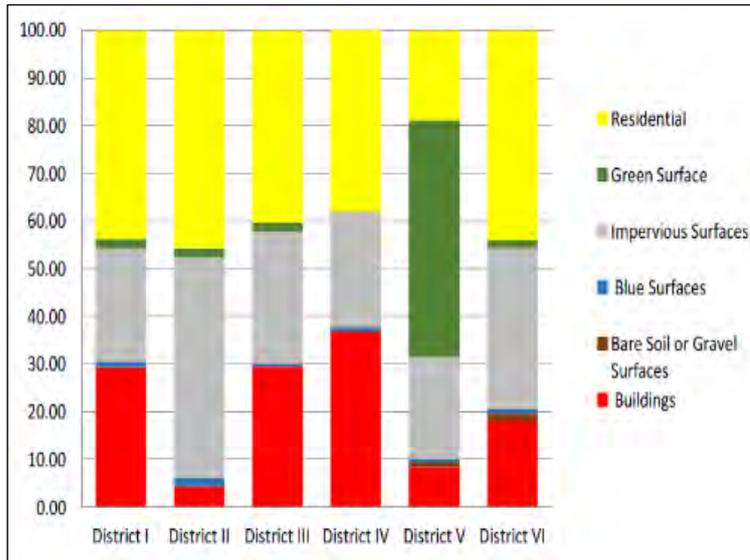


Figure R-18 Proportional Cover Types by District in %

surface cover analysis of the six districts.

Said study carried out a survey cover analysis by calculating the total areas of evapotranspiring (green and water), impervious (cemented area of residential, commercial, institutional and roads) and bare soil.

Results of the surface cover analysis revealed that eighty-one (81%) percent of the city's area is currently impervious, 18% is evapotranspiring and 1% is bare soil. It is represented in Figure R-19. Figure R-20 represents the comparative

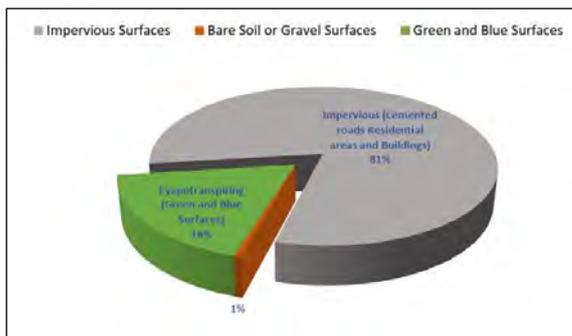


Figure R-19 : Surface Cover, Quezon City

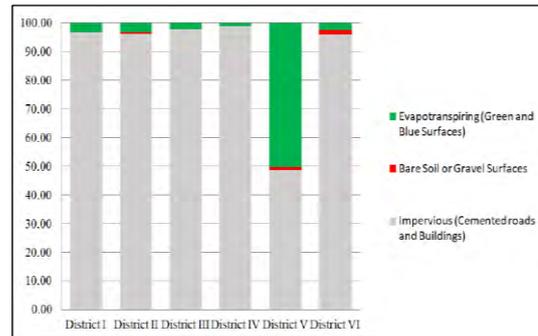


Figure R-20 : Surface Cover by Districts, Quezon City

High temperature in Quezon City is due to rapid urbanization, aggressive development and increased human activities are potential to urban heat island (UHI). The city government should be prudent in converting these evapotranspiring areas into impervious land by protecting the remaining green and blue areas.

Further, strategies for mitigating UHI should be considered especially in districts where green areas are at its least or altogether absent. Significant mitigation strategies in combatting UHI are as follows: 1) Planting trees and vegetation as these help cool urban climates through shading and evapotranspiration 2) Developing better roof designs incorporated with vegetation 3) Incorporating cool pavements such as reflective and permeable pavements which allow air, water, and water vapor into the voids of the pavement 4) Incorporating cool roofs such as products made of highly reflective and emissive materials 5) Reducing anthropogenic (human-made) heat release.

## **CLIMATE CHANGE INITIATIVES AND INVESTMENTS**

### **Climate Change Expenditure Tagging (CCET)**

Joint Memorandum Circular 2014-01 issued on August 2014 by the Department of Budget and Management (DBM), Climate Change Commission (CCC) and the Department of Interior and Local Government (DILG) encourages LGUs to track their climate expenditures in their Annual Investment Programs (AIP).

The objectives of CCET are to identify, tag and take stock of climate change programs, projects and activities (PPAs) and to track and report climate change expenditures of the LGUs.

Climate Change Expenditure Tagging (CCET), undertaken in the 2018 Annual Investment Program (AIP) revealed that out of the City's total fund of Php 27.05B, Php 2.05B has been tagged as climate initiatives. It has earmarked an amount of Php 1.54 B for climate change adaptation program and projects while 0.49 B for changing climate mitigation programs and projects.

A total of 32 related PPAs have been identified in the City's 2018 Annual Investment Plan (AIP).

Big impact investment programmed for 2015 are PPAs aimed at building better and safer Quezon City. These include:

#### ***Climate Change Adaptation (CCA)***

- Development of disaster and climate risk monitoring system and installation of Early Warning Systems (EWS)
- Construction of socialized housing, low cost housing, and other mass dwellings to climate resilient design standards

#### ***Climate Change Mitigation (CCM)***

- Identification of measures that help sequester and reduce greenhouse gas emissions such as carbon dioxide and methane
- Waste diversion programs
- Energy-efficient street lighting using Light Emitting Diode (LED) lights and lamps
- Urban greening and beautification projects
- Urban gardening program
- Traffic management to reduce GHG emissions
- Green Fund Summit to strengthen institution in developing policies to mobilize carbon finance

#### ***Other Significant Investments***

- Construction of climate resilient elementary and secondary school buildings (safe from climate hazards: considers climate risks)
- Demolition of illegal structures occupied by informal settlers in high risk areas/relocation of informal settlers

## Drought

Droughts are the primary impact of increased temperature. They are a recurrent feature of climate. They are characterized by a deficiency of precipitation over an extended period of time.

Drought is also related to the timing of precipitation. Other climatic factors such as high temperature, high wind, and low relative humidity are often associated with drought.

Impacts of drought involve water stock reduction in reservoir, water supply shortages, depletion of groundwater, soil moisture reduction and decrease in food production.

Droughts can have serious social, economic and environmental impacts. Social impact involves public safety, health and conflicts between water users. Economic impact on the other hand, relates to losses in yields in both crop and livestock production while some of the environmental impacts are environmental losses due to damages to plant and animal species, wildlife habitat, air and water quality, degradation of landscape quality, loss of biodiversity and soil erosion.

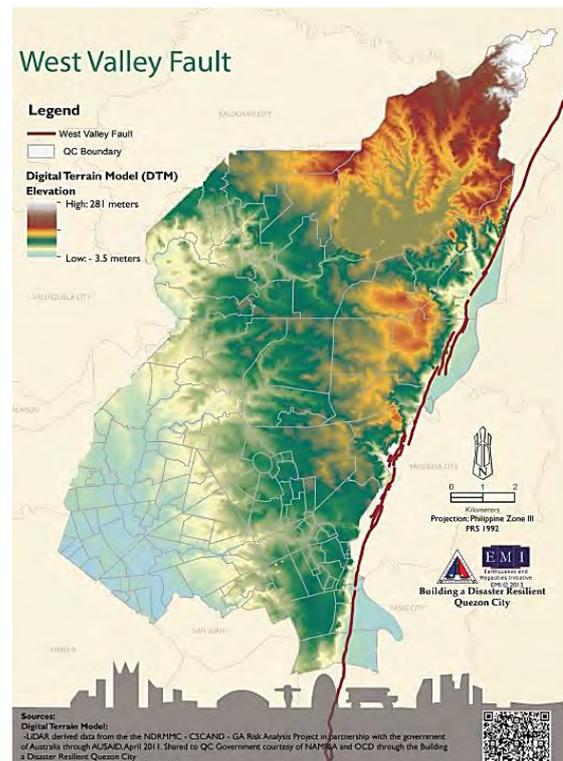
Quezon City's vast areas of parks and open spaces such as the La Mesa Watershed, Ninoy Aquino Parks and Wildlife, Quezon City Memorial Circle, university campuses of University of the Philippines Diliman, Miriam College, and Ateneo de Manila University which are habitat to numerous species of flora and fauna are perceived most vulnerable during the occurrence of drought in the city. Droughts occurring in distant regions, however, may still impact the city if such region is a source of agricultural produce, water or power supply of the city.

### 7.1.2 Geological Hazards

#### Earthquake

One of the major active faults in the Philippines is the Valley Fault System (VFS). The 100-km long West Valley Fault (WVF), one of the two major segments of the VFS, transects various parts of Metro Manila including Quezon City. The WVF runs from northeast through the southeast sections of Quezon City and passes through Barangays Bagong Silangan, Batasan Hills, Matandang Balara, Pansol, Blue Ridge B, St. Ignatius, Libis, White Plains, Bagumbayan and Ugong Norte. (Refer to Figure R-21).

The WVF moves roughly every 400 to 600 years and has moved four (4) times in the last 1,400 years. The last major earthquake generated by this fault was 360 years ago, in 1658. This means that the fault could possibly trigger a large earthquake within the next few years, or few ten years.



Source: QC DRRMP (2014-2020)

Figure R- 21 ; The West Valley Fault System

Also, the 2004 Metro Manila Earthquake Impact Reduction Study (MMEIRS) of JICA projects the occurrence of a magnitude 7.2 earthquake from the movement of the WVF System.

### Earthquake Risk Assessment

The Hazard Vulnerability Risk Assessment (HVRA) Report, indicated earlier, also dealt extensively on the risks, consequences, and impacts of a 7.2 magnitude earthquake generated from the movement of the West Valley Fault System.

The top five barangays in the city to be prioritized for earthquake impacts are Barangays Bagumbayan, St. Ignatius, Ugong Norte, Bagong Silangan and Batasan Hills. Meanwhile, barangays which constitute a second tier for prioritizing emergency management planning and preparedness actions include Barangays White Plains, Blue Ridge B, Kaligayahan, Libis and Commonwealth. (Refer to Figure R-22).

### Following Impact

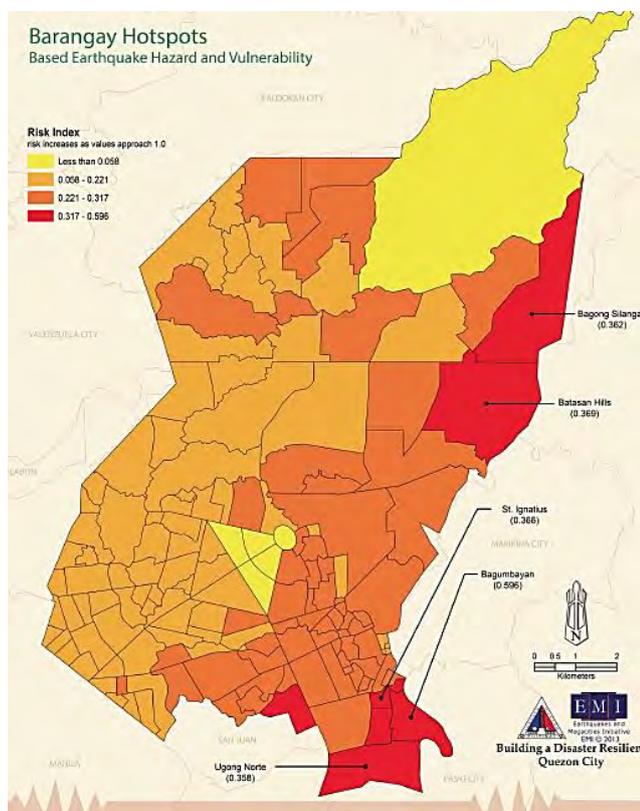
Based on the HVRA Model 8 Scenario, it is projected that 4,800 buildings may be burnt in case of an 8-meter per second wind.

### Liquefaction Impact

Liquefaction is the loss of cohesion of sediment layers from extreme ground shaking, manifested as ground subsidence, spreading, and sandboils.

Table R-11 : Liquefaction-Prone Barangays

Barangay		Liquefaction Potential
Bagumbayan	Santol	Relative High
Damayang Lagi	Sienna	
Doña Imelda	St. Ignatius	
Kalusugan	St. Peter	
Libis	Sta. Cruz	
Lourdes	Sto. Domingo	
Mariana	(Matalahib)	
Mariblo	Talayan	
Matandang Balara	Tatalon	
Roxas	White Plains	
Bagumbayan		Relative Low
Ugong Norte		



Source: QC DRRMP (2014-2020)

Figure R-22 : Barangay Hotspots Based on Earthquake Hazard and Vulnerability

### Ground Motion Shaking Severity

Still according to the Model 8, barangays with strongest intensity of ground motion are Barangay Bagumbayan (9.76), Ugong Norte (9.36), Batasan Hills (9.28), Libis (9.26) and Bagong Silangan (9.25). (Refer to Figure R-10).

The following barangays will suffer the most with building collapse: Batasan Hills (449

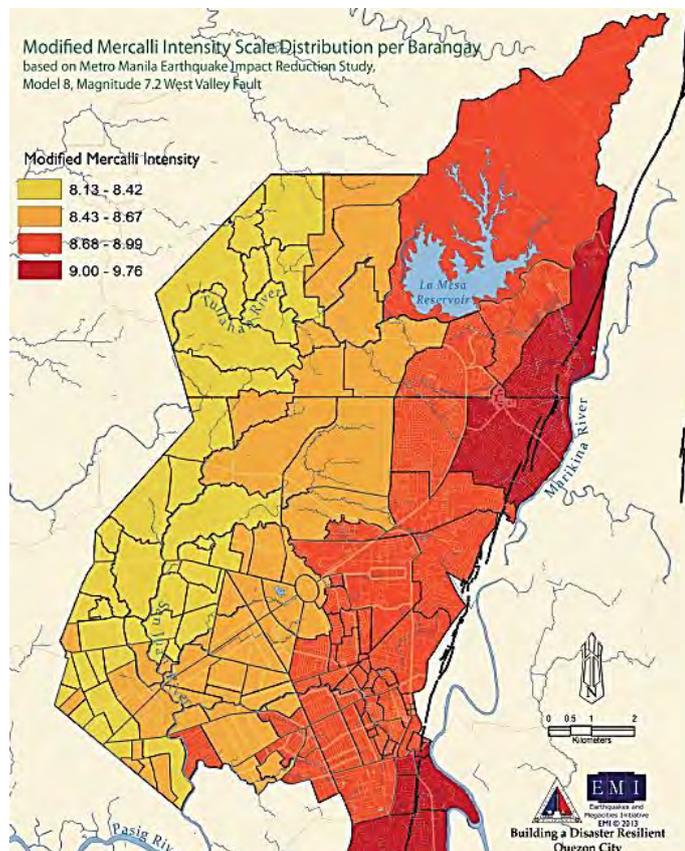
buildings), Bagong Silangan (249), Payatas (134), Matandang Balara (112), and Commonwealth (101). These barangays are located towards the eastern region of Quezon City. These same barangays will also suffer the most with buildings that will receive very heavy damages.

The barangays that will suffer the most from buildings sustaining heavy damages are Commonwealth (1,414), Batasan Hills (1,348), Payatas (957), Holy Spirit (908), and Pasong Tamo (747).

Meanwhile, Batasan Hills (5,741), Commonwealth (5,198), Payatas (3,705), Holy Spirit (3,236), and Bagong Silangan (3,155) were identified as areas that will suffer the most from buildings and will sustain partial damages.

The barangays that will suffer most fatalities are Batasan Hills (1,557), Commonwealth (948), Bagong Silangan (878), Holy Spirit (680), and Matandang Balara (650).

Batasan Hills (4,324), Commonwealth (3,130), Tandang Sora (2,571), Bagong Silangan (2,442), and Holy Spirit (2,240) will suffer the most injuries.



Source: Source: QC DRRM Plan 2014-2020

**Figure R-23 : Modified Mercalli Intensity Scale Distribution per Barangay: QC**

**Table R-12 : Summary of the Impacts to Sectors from a M7.2 Earthquake from the West Valley Fault**

Core Elements	Primary Hazards: <i>Faulting, shaking, liquefaction, landslide</i>	Primary Damage: <i>Building/Structural</i> <i>Non- structural/Equipment</i> <b>Primary Loss:</b> <i>Life/Injury, Repair Costs, Function, Communication/Control</i>	Secondary Hazard/Damage: <i>Liquefaction. Landslide Fire, Hazmat, Flooding</i> <b>Secondary Loss:</b> <i>Business /Operations Interruptions, Market Share, Reputation</i>
<b>Population</b>	<b>Shaking</b> Silangan BF Homes Subd. Barangay Proper South Cemetery Petines Filinvest II  Ugong Norte Mercury C-5 Greenmeadows Acropolis  Libis Eastwood Cyberpark C. Atienza C. Industria  Blue Ridge B. left side of bridge Pansol White Plains	Building Collapse Residential /Commercial, Industrial, Institutional, Reservoir Schools (Bagong Silangan ES/ HS) Churches, markets, hospitals Roads & Bridges (C-5)  Cracking, damage to La Mesa Dam Expected % life loss - 3,000 (estimated) Injured - 9,000 (Estimated) $3000 * 2 = 6,000$  $9000 * 2 = 18,000$ Estimated $16 * 5000 = 90000$ students 1350 - injured, 67 deaths	Landslide Payatas (open dumpsite) Bagong Silangan  Flooding Disruption of: Basic services/supply (food, water, electricity) Slowing down/stoppage of business
<b>Economic Activity</b>	Faulting & Shaking	Damage to Malls, Condominiums and Residences Bagumbayan White Plains	Buildings Collapse Bagumbayan  Landslide Bagong Silangan Batasan Hills Informal Settlers  Food & Water Shortage Communication & Power Interruption
<b>Access to Income/Services</b>	<b>Ground Shaking</b> Bagumbayan Escopa Loyola Heights Pansol Old Balara Batasan Bagong Silangan	Damage to Balara Filter Plant & Main Water Aqueduct  Damage to La Mesa Dam  Damage to Schools Red: Bagong Silangan ES, Bagong Silangan HS, Bagumbayan ES, OB ES Orange: Payatas ES, Judge Cecilia Palma ES, Batasan Hills ES, Balara ES, Batino ES, T. Alonzo ES, JP Laurel HS, Camp Aguinaldo, PV Kalaw, Libis Orange: Murphy HC, Camp Aguinaldo Station Hospital, Quirino Memorial Medical Center, Proj. 4 HC, Villarosa Gen. Hospital, Escopa HC, Payatas A HC, Payatas B HC, Lupang Pangako, Commonwealth  Primary Damage-Bridges and Roads Red: Bagong Silangan – (Joyful St.), San	Possible flooding of barangays along Tullahan River  Informal Settlers Fire Prone Flash flood Loss of Lives (mass casualties)  Water supply interruption Health and Sanitation Problems - > Disease Outbreak Disruption of Health Services Disease Outbreak Loss of Lives Injuries Demand for services Delayed Emergency Response due to inaccessible roads

**Table R-12 : Summary of the Impacts to Sectors from a M7.2 Earthquake from the West Valley Fault**

<b>Core Elements</b>	<b>Primary Hazards:</b> <i>Faulting, shaking, liquefaction, landslide</i>	<b>Primary Damage:</b> <i>Building/Structural</i> <i>Non- structural/Equipment</i> <b>Primary Loss:</b> <i>Life/Injury, Repair Costs, Function, Communication/Control</i>	<b>Secondary Hazard/Damage:</b> <i>Liquefaction. Landslide Fire, Hazmat, Flooding</i> <b>Secondary Loss:</b> <i>Business /Operations Interruptions, Market Share, Reputation</i>
		Mateo – Batasan, Bagumbayan (Calle Industria)  Damage to Health Centers & Hospitals Red: Pansol HC, Libis HC, Bagong Silangan HC, Batasan Super and Batasan Annex HC, Doña Nicasia, Camarilla ES, Libis ES, Fort Aguinaldo ES, Belarmino Sports Complex  Life lines are cut Suspension of Classes Mass Casualties (Death, Injuries)	
<b>Emergency Management and First Responders</b>	Those affected by primary hazards: Blue Ridge B Libis St. Ignatius Bagumbayan	Power Cut-off Loss of Communication, Water Supply Faulting along C5: Road Damage Flyover Libis-Katipunan Collapse Buildings and Hotels Collapse Casualties/ Injuries Loss of Lives Work, school, suspension	Contamination of Waterways Liquefaction in Brgy. Bagumbayan Residential Fire Industrial Fire (e.g. Gas station, Factories) Industrial & Chemical Leaks in Bagumbayan Residential Areas prone to landslide Food/Medical Shortage Security Threat (Chaos among civilians), looting Closure of business/transactions Prolonged restoration of electrical & water supply Hampered PNP & other law enforcement response
<b>Institutional and Land Use Administrators</b>	Bagong Silangan Batasan Hills Matandang Balara Pansol St. Ignatius Blue Ridge B White Plains Bagumbayan Jgong Norte Libis	Roads & Bridges Damage Building Damage Government Offices, Churches Batasan National HS Batasan ES Bagong Silangan ES Bagong Silangan HS QC Polytechnic University Ateneo de Manila University Miriam College Lupang Pangako ES Payatas-A ES Corazon Aquino ES Daycare centers Health care centers Private schools Hospitals Barangay halls Commercial and industrial establishments (in Libis)	Liquefaction Batasan Hills B. Silangan Bagumbayan Ugong Norte  Landslide Matandang Balara Batasan Hills B. Silangan  Fire High-density areas, communities  Flooding Access issues Extra human loss

**Table R-13 : Summary of Consequences to Sector of a M7.2 Earthquake Including Initial Recommendations to Reduce the Consequences**

Core Elements	Consequences to Sector of M7.2 EQ	Initial Recommendations
<b>Population</b>	<ol style="list-style-type: none"> <li>1. Loss of Life, Possible injuries</li> <li>2. Destruction of the environment</li> <li>3. Loss of properties or infrastructure</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce % of deaths through increasing the level of awareness on DRRM in the community</li> <li>2. Greening the buffer zone of the fault line (5m on both sides)</li> <li>3. Strict implementation of the National Building Code.</li> <li>4. Relocation of the ISF located along the fault line</li> <li>5. Proper Waste Management</li> <li>6. Reduce risk by: Identifying hazards</li> <li>7. Empowerment of the people</li> </ol>
<b>Economic Activity</b>	<ol style="list-style-type: none"> <li>1. Landslide</li> <li>2. Roads &amp; Bridges Damage</li> <li>3. Shortage of Relief Goods (Foods and Medicine)</li> </ol>	<ol style="list-style-type: none"> <li>1. Resettlement of I.S.F.</li> <li>2. Construct EQ-proof bridges and all other roads and frequent inspections</li> <li>3. Pre-deployed relief good to strategic areas</li> </ol>
<b>Access to Income/ Services</b>	<ol style="list-style-type: none"> <li>1. Casualties and injuries</li> <li>2. Damaged school buildings</li> <li>3. Damaged roads and bridges</li> </ol>	<ol style="list-style-type: none"> <li>1. Preparedness Drills</li> <li>2. Retrofitting of treatment plants</li> <li>3. Education</li> <li>4. Advocacies</li> <li>5. Capacitate vulnerable groups</li> <li>6. Relocation</li> <li>7. Train health personnel and community on first aid, rescue and water sanitation &amp; hygiene</li> <li>8. Capacitate community - provide emergency kits and logistics for primary care services</li> <li>9. Coordination &amp; networking</li> <li>10. Inspection of roads and bridges</li> <li>11. Retrofitting and repair</li> <li>12. Identify alternative routes to transport people, supplies and other needed resources</li> </ol>
<b>Emergency Management and First Responders</b>	<ol style="list-style-type: none"> <li>1. Landslide in Residential areas (Blue Ridge B)</li> <li>2. Civil unrest (Brgy. Libis)</li> <li>3. Chemical Leak (Fire)</li> </ol>	<ol style="list-style-type: none"> <li>1. Provide early warning signage</li> <li>2. IEC (Trainings &amp; Drills) materials</li> <li>3. Relocation of ISFs from danger zones</li> <li>4. Identification of evacuation centers</li> <li>5. Prepare contingency plan on the part of PNP during civil unrest</li> <li>6. Frequent exercise of fire and EQ drills</li> <li>7. Conduct Barangay-Ugnayan</li> <li>8. Identify the kinds of chemicals present</li> <li>9. Contingency plan in cases of emergency, in coordination with QC BFP</li> </ol>
<b>Institutional and Land Use Administrators</b>	<ol style="list-style-type: none"> <li>1. Depreciation of Land Values</li> <li>2. Structural Damage (Infrastructure)</li> <li>3. Disruption of government services and operations</li> </ol>	<ol style="list-style-type: none"> <li>1. Conversion of Use</li> <li>2. Repair and rehab (make the structures more resilient)</li> <li>3. Strict Compliance &amp; implementation of the National Building Code and Zoning Ordinance</li> <li>4. Review and revision of the CLUP</li> <li>5. Identify areas where the services &amp; operations can resume</li> </ol>
<b>Physical Resources</b>	<ol style="list-style-type: none"> <li>1. Contamination of waterways</li> <li>2. Uprooting of trees</li> <li>3. Accumulation of wastes</li> </ol>	<ol style="list-style-type: none"> <li>1. Invest on Earthquake-resistant drainage systems</li> <li>2. Retrofitting of treatment plants</li> <li>3. Reinforcement of huge old trees</li> <li>4. Continuous improvement of the existing disposal sites</li> <li>5. Retrofitting of roads</li> </ol>

In 2015, the DOST-PHIVOLCS in close coordination with the Quezon City Government prepared an earthquake hazard assessment relative to real estate properties directly transected

or located near the West Valley Fault. The assessment revealed that there are 659 lots that are directly transected by the WVF, while sixty-two (62), fifty-four (54), forty-six (46) and forty-two (42) lots that are located approximately one (1), two (2), three (3), and four (4) meters away from the WVF, respectively. Table R-14 reveals the number of real estate properties transected or located near the WVF.

**Table R-14: QC Number of Real Estate Properties Transected or Located near the WVF**

Barangay	Assessment Relative to the West Valley Fault (WVF)					Total
	No. of real estate properties transected by the WVF	No. of real estate properties approx. 1 meter away from the WVF	No. of real estate properties approx. 2 meter away from the WVF	No. of real estate properties approx. 3 meter away from the WVF	No. of real estate properties approx. 4 meter away from the WVF	
Bagong Silangan	181	24	20	18	10	253
Batasan Hills	235	27	20	15	13	310
Matandang Balara	59	2	1	2	5	69
Pansol	33	-	2	3	4	42
Blue Ridge B	9	2	-	-	-	11
Libis	14	1	2	1	1	19
White Plains	31	4	5	4	1	45
Bagumbayan	48	1	2	2	3	55
Ugong Norte	49	3	2	1	5	60
<b>TOTAL</b>	<b>659</b>	<b>62</b>	<b>54</b>	<b>46</b>	<b>42</b>	<b>864</b>

Source: DOST-PHIVOLCS

### 7.1.3 Anthropogenic Hazards

Anthropogenic hazards also known as human-made hazards which can result in the form of a man-made disaster. “Anthropogenic” covers threats with elements of human intent, error or negligence or involving a failure of a man-made system causing one or more identifiable disastrous events. This hazard may include fire, industrial explosion, stampede, and terrorism

#### Fire

##### *Fire Incidence*

For the year 2015-2018, Quezon City had a total of 4,362 reported fire incidents with a total estimated amount of damages of Php224M. The year 2016 recorded the most number of fire incident at 1,248 occurrences and also the highest cost of damages at Php123.42M. Yearly, the average number of fire incident is 1,091 while the average cost of damages is recorded at Php56M.

Over the four-year period, electrical, including faulty wiring, is the leading fire incident type reported with an average of 744 occurrences a year. This is followed by causes from cigarette butt/smoking which result in about 157 fire incidents a year, and unknown/others with an average of 82 fire incidents a year.

Most of the fire incidents were accidental in nature averaging 743 per year. In terms of nature, structural account the most at an average of 418 fire occurrences a year.

**Table R-15 : Comparative Number of Reported Fire Incident and Estimated Damages: 2015-2018**

Fire Incidents By Type	2015		2016		2017		2018		Average
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
<b>Causes of Fire</b>									
Electrical	793	52.32	733	50.73	705	67.20	743	71.86	744
Combustible/Heat Bonfire	10	0.97	2	0.16	7	0.68	17	1.64	9
Open Flames/Cooking			45	3.60	56	5.34	56	5.42	39
Cigarette Butts Smoke	159	17.12	198	15.87	130	12.39	142	13.73	157
Fireworks/Explosive Sparks					2	0.19	1	0.10	1
Flammable Liquids					4	0.38	2	0.19	2
LPG Tanks/Stove	20	1.93	34	2.72	54	5.15	17	1.64	31
Unknown/Others			236	18.91	91	8.67			82
Unattended Cooking Stove	19	1.84							5
Unattended Lighted Candle	14	1.35							4
Under Investigation	16	24.47					56	5.42	4
<b>TOTAL</b>	<b>1,031</b>	<b>100</b>	<b>1,248</b>	<b>100</b>	<b>1,049</b>	<b>100</b>	<b>1,034</b>	<b>100</b>	<b>1091</b>
<b>Motives</b>									
Intentional	9	1.26	4	0.32	6	0.57	4	0.39	6
Accidental	1009	74.27			990	94.38	974	94.20	743
Under Investigation	16	24.47	1,244	99.68	53	5.05	56	5.41	342
<b>TOTAL</b>	<b>1034</b>	<b>100</b>	<b>1,248</b>	<b>100</b>	<b>1049</b>	<b>100</b>	<b>1034</b>	<b>100</b>	<b>1091</b>
<b>Nature</b>									
Structural	794	76.79	389	31.17	264	25.17	223	2.57	418
Vehicular			86	6.89	73	6.96	62	6.00	55
Grass			104	8.33	19	1.81	35	3.38	40
Chemical			2	0.16	52	4.96	16	1.55	18
Rubbish	174	16.83	93	7.45	104	9.91	119	11.55	123
Forest									
Ship									
Transformer explosion					1	0.10			0.3
Post fire			240	19.23	207	19.73			112
Secondary Wire					9	0.86			2
Service Entrance					6	0.57			2
Electric Fan					10	0.95			3
Tree Fire									
Transmission Line/High Tension									
Others (Electrical Fixture)	66	6.38	334	26.76	304	28.98	579	6.00	321
<b>TOTAL</b>	<b>1,034</b>		<b>1,248</b>	<b>100</b>	<b>1,049</b>	<b>100</b>	<b>1,034</b>	<b>100</b>	<b>1091</b>
Estimated Damages (in Pesos)	53,127,200.00		123,420,964.86		25,409,600.00		22,407,300.00		56,091,266.22

## ***Fire Protection and Prevention***

Fire protection and prevention services for the city are rendered by the Quezon City Fire District (QCFD) which has twenty-six (26) fire sub-stations in 2018 against only 24 fire sub-stations in 2015. These facilities are distributed to the city's six (6) congressional districts.

In 2018, there are 576 firefighters or an additional 5 firemen from the 571 firemen in 2015 complemented by 35 civilians. There are also 47 fire aides that are provided by the city government. At present firemen-population ratio is at 1:5,278 which is below the standard ration of 1:2,000. With this ratio, there is a shortage of 944 firemen.

Quezon City has 27 firefighting vehicles, but only 21 are operational. There are also two (2) emergency vehicles, however, only one (1) is functional. Two (2) aerial ladders are also available.

The 2018 fire-substation to land area ratio is 1:6 sq.km. This is below the standard ration of 1:4 sq.km. This also means that one (1) fire sub-station has double the land area it has to cover. The city's required number of fire sub-station is 40. With the existing 26 fire sub-stations, there is a shortage of 14 sub-stations.

## **Industrial Hazards**

Industrial hazards are threats to people and life-support systems that arise from the mass production of goods and services. When these threats exceed human coping capabilities or the absorptive capacities of environmental systems, these give rise to industrial disasters. Industrial hazards can happen at any stage in the production process, including extraction, processing, manufacture, transportation, storage, use, and disposal. Industrial hazards usually occur in the form of explosions, fires, spills, leaks, or wastes. Releases may ensue because of factors that are internal or external to the industrial system. Releases may be sudden and intensive, as in a power-plant explosion, or gradual or extensive, as in the build-up of ozone-destroying chemicals in the stratosphere or the progressive leakage of improperly disposed toxic wastes.

### ***Industrial Explosion***

Industrial explosion involves the production of a pressure discontinuity or blast wave resulting from a rapid release of energy. A pressure disturbance is generated into the surrounding medium. Air becomes heated due to its compressibility and this leads to an increase in the velocity of sound, causing the front of disturbance to steepen as it travels through the air. The loading and hence the damage to the nearby targets are governed by the magnitude of and duration of pressure waves. The explosion mainly occurs due to the rapid combustion of a flammable material but can be brought about by the chemical reactions other than combustion, provided they release large amount of energy (heat).

### ***Types of Industrial Explosion***

- **Chemical Explosion**

Chemical explosions in plant facilities or in vessels can arise due to exothermic reaction occurring internally. Such reaction may involve decomposition of unstable substances, polymerization of monomers, or combustion of fuel oxidant mixtures. Heating and increase of

molecular number can result in a rise in pressure to the bursting point of the vessel, and explosives decompose quickly that confinement and the development of pressure are self-imposed.

- **Physical Explosion**

Physical explosion occurs simply due to over pressure as in the case of steam boiler and air receiver explosions. Fire is not necessarily a consequence. But fire involving stock, buildings and plant ancillaries can cause physical explosions due to overheating followed by overpressure in vessels and also fireballs if contents are flammable.

Industrial establishments commonly use hazardous substances which are compounds and mixtures that pose a threat to health and property because of their toxicity, flammability, explosive potential, radiation or other dangerous properties. Hazardous chemicals may present physical hazards, although this is more common in transportation and industrial incidents.

**Common causes of industrial explosion** include:

- Boilers that are not properly cared for;
- Careless cigarette smoking while on premises;
- Malfunctioning and dangerous equipment;
- Improper maintenance of machinery;
- Unseen corrosion;
- The use of impure or dirty chemicals; and
- Failing to properly train all employees.

Environmentally-sound management of these hazardous chemicals being produced, stored, used, treated or disposed of in industrial facilities should be done to minimize the incidence of explosion.

### ***Incidence of Industrial/Gas Explosion***

In 2012, incidence of gas leakage was reported in Barangay Sta. Cruz where about 300 people was affected. Some of the victims were temporarily sheltered in the barangay hall while some were brought to the hospital due to eye irritation and difficulty in breathing. It was known that the gas that leaked was ammonia or “anhydrous ammonia” a colorless, corrosive and highly irritating gas with suffocating smell that can irritate or burn the nose, throat and respiratory tract, eyes and skin and can cause dizziness and nausea among victims. Ammonia is commonly used refrigerant in large freezing and refrigeration plants such as those involved in ice-making, dairy products manufacturing and cold storage.

Meanwhile, Barangay Pinyahan also experienced fume leakage from a chemical tank which was described having the smell of a muriatic acid. This resulted in the hospitalization of victims of such leak.

Industrial explosion may possibly occur in industrial establishments under high risk category such as big scale manufacturing industry, junkshops, gasoline station, LPG retailer, etc.

## **Mass Hysteria/Stampede**

The term stampede was derived from the 19<sup>th</sup> Century Mexican Spanish word “*estampida*” which means “uproar” (Encarta Encyclopedia DVD Premium, 2009). It is an uproarious occurrence characterized by a sudden headlong surge of crowd in an uncontrolled rush for safety or competitive scramble for a valued objective. Stampede is an act of mass impulse, which occurs in times of “massive flight’ or “massive craze’ response (Fruin,1993:4).

In this sense, the occurrence of stampede is a consequence of impulsive response to a stimulus. The stimulus can be a sense of imminent danger or an attempt to get the better of the crowd in the context of a competitive struggle for advantage such as viewing an event or person, or gaining a privileged seat in a stadium, material advantage, among others. Other possible triggers of stampede include fire outbreak, riots, gun fire, explosions and false alarm purporting safety threats.

Stampede situations are characteristically chaotic. These situations are marked by mass freight, anxiety, distress and panic. In large stampedes, there are large injuries and fatalities resulting from pushing, trampling and crushing.

### ***Causes of stampede***

Human stampede is a global phenomenon. It has occurred in various parts of the world over the years. The true cause of human stampede does not rest with the crowd per se; it is rather a consequence of systematic failures in respect of space crowd control cum optimization (Helbing & Mukerji, 2012). As briefly observed by Fruin (1993:1), “Crowds occur frequently, usually without serious problems. Occasionally, venue inadequacies and deficient crowd management results in injuries and fatalities”. One of the most culpable risk factors in crowd disaster is poor or ineffective utilization of space (Still, 2014).

Research on the Wikipedia revealed that there are thirty (30) notable world’s human stampede that occurred in 2005-2013. (*Refer to Table R-16*)

### ***Effects of Stampede***

The crowds, or the large concentration of people, occur frequently in the modern society particularly during religious gatherings or pilgrimages, large-scale sporting, music or entertainment events. Crowded situations are inherently disaster-prone or stampede-prone. Human stampede is a typical instance of a crowd disaster (Fruin, 1993, 2010; Helbing & Mukerji, 2012;Still, 2014).

The following are some prominent circumstances where a human stampede can likely occur:

- Mass political gatherings such as rallies, campaigns
- Large scale social events
- Mega sporting events
- Religious festivals such as pilgrimages or mass initiation
- Massive job selection screening
- Complex emergency situations such as terrorist attacks or military siege
- Natural disaster situations such as earthquakes, floods, tsunamis, and evacuation from such.

**Table R-16 : List of human stampedes across the world: 2005-2018**

Date of Occurrence	Event/Location	Casualties
January 2005	Hindu pilgrims stampede/Maharashtra, India	265 people died
August 31, 2005	Baghdad bridge	1000 people died
December 2005	Flood relief supplies distribution/Southern India	42 people died
January 12, 2006	Stoning of the Devil Ritual/Jamarat Bridge, Mecca	345 people died
February 4, 2006	First Anniversary of ABS-CBN's Wowowee/Philippines Sports Arena, Philippines	78 people died, hundreds injured
September 12, 2006	Governorate, Yemen	51 people died and more than 200 injured
June 2, 2007	Football game between Zambia and Republic of Congo/Chililabombwe, Zambia	12 people died
October 3, 2007	Train station in Northern India	14 women died
October 5, 2007	Public execution in a stadium/Sunchon, North Korea	6 people died and more than 30 injured
November 11, 2007	Carrefour Supermarket sale on cooking oil/Chongging, China	3 people died and more than 30 injured
March 27, 2008	Indian Temple Pilgrimage/India	8 people died and 10 injured
June 20, 2008	Police raid/ Mexico Nightclub, Mexico	12 people died and 13 injured
August 3, 2008	Rain shelter collapse/Naina Devi Temple, Himachal Pradesh, India	At least 162 people died and 47 injured
September 14, 2008	Football match/Butembo, Democratic Republic of Congo	11 people died
September 20, 2008	Chamunda Devi Temple/Jodhpur, India	147 people died
October 2, 2008	Children's Dance Hall/Tanzania	20 children died
March 29, 2009	World cup qualifier/Houphouet-Boigny Arena	19 people died and 130 injured
March 4, 2010	Ram Janki Temple, Kunda, India	71 people died and over 200 injured
May 4, 2010	Remembrance of the Dead/Dam Square, Amsterdam	63 people injured
June 6, 2010	Soccer Match between Nigeria and North Korea/Makulong Stadium	14 people injured
July 24, 2010	The Love Parade/Duisburg, Germany	21 people died and more than 500 injured
November 22, 2010	Water Festival/Phnom Penh	At least 347 people died
January 15, 2011	Sabarimala Temple, Kerala, India	102 people died; 100 people injured
January 15, 2011	Budapest	3 girls died; 14 people injured
November 8, 2011	Religious Ceremony, Haridwar, India	16 people died
January 1, 2013	New Year's Firework, Abidjan, Ivory Coast	60 people died; 200 injured
January 1, 2013	New Year's Eve Vigil, Estadio da Cidadela	10 people died; 168 injured
January 23, 2013	Night Club fire, Santa Maria, Brazil	242 people died; 168 injured
February 10, 2013	Hindu Festival Kumph Mela, Train Station in Allahabad, Uttar Pradesh, India	36 people died; 39 injured
October 13, 2013	Hindu Festival, Madhya Pradesh, India	115 people died; more than 100 injured
November 19, 2017	food-aid distribution in Sidi Boulaalam, Morocco	15 women; 40 women injured
December 18, 2017	Exiting sloped gateway into the Rima Community Center	10 people died; more than 50 injured
June 16, 2018	Caracas, Venezuela	21 people died

As a form of disaster, stampede has critical consequences, such as the following:

- Loss of life in which traumatic asphyxia is identified as the most common cause of death and serious injuries. Asphyxia is defined as the lack of oxygen or excess of carbon dioxide in the body that results in unconsciousness and often death.
- Human injury
- Structural damage of public facilities
- Psychological trauma or distress
- Loss of material valuables.

Incidentally, one of the human stampedes listed in Table R-16 was the Wowowee Stampede. This incident happened on February 4, 2006 at the Philsports Football Stadium in Pasig City. The stampede resulted in the loss of many lives and injured hundreds of people from the almost 30,000 people who waited in long queue outside the stadium to participate in the said event. According to reports, most of the victims were elderly women who were crushed against a steel gate on the stadium's slope entrance and one child also died. A fact-finding team created to investigate the case revealed that there was lack of coordination between the security guards of the organizers, security guards of the venue, local police and relevant government agencies and the absence of a worked-out contingency plan for the huge crowd.

Generally, the cases of human stampede have resulted in massive human injury as well as appreciable death tolls. Quezon City is not spared from possible occurrences of stampede. It may be recalled that a stampede occurred when a fire broke out in the Ozone Disco Nightclub in Quezon City on the tragic night of March 18, 1996 where there were a total of 162 deaths and 95 injuries reported. Too, the presence of big shopping malls, concert, sports, entertainment venues such as the Araneta Coliseum, SM Skydome, etc and the Light Rail Transit (LRT) and Metro Rail Transit (MRT) are potential locations of human stampede.

In order to mitigate this form of hazard and disaster, the following can be observed for planned mass gatherings or where mass crowd is anticipated.

- Ensuring that the infrastructure such as roads, corridors, open spaces, entrances and exits is suitable for the mass gathering so that there is enough capacity and that there are no bottlenecks or other compression points.
- Presence of crowd management plan, which includes crowd monitoring, scheduling and control.
- Having good contingency plans including evacuation routes.
- Creation of functional mobile clinics.
- Provision of stationary ambulance(s).
- Provision of well multiple "marked and manned" emergency entrances and exits in public event centers.
- Availability of pragmatic crowd control mechanism based on pro-active and early warning techniques to prevent occurrence of crowd disasters.
- Optimization of human volume and movements at public event centers to avoid stiff congestion as well as pressure on available space and facilities.

## Terrorism

Terrorism, as defined by Merriam-Webster dictionary, is the systematic use of terror especially as a means of coercion. It is the unlawful use of force or violence by a person or an organized group against people or property with the intention of intimidating or coercing societies or government, often for ideological or political reasons. In the Philippines, terrorism perpetrated by rebel organizations against the government, its citizens and supporters. Most terrorist acts in the country are committed by separatist groups like the Moro Islamic Liberation Front (MILF), Moro National Liberation Front (MNLF) and the Abu Sayyaf Group (ASG). The Philippine government is also fighting a long running war with the communist New People's Army (NPA) which is much larger than the Islamic terrorist groups.

Public mass transport and places of big gatherings such as churches, street markets and people assemblies are favorite targets of terrorists.

Since 2000, Islamic separatist forces have carried over 40 major terrorist attacks, mostly bombing, against civilians and properties. These mostly happened in the southern region of the country like Basilan, Jolo and other nearby islands. Numerous attacks have also been carried out in and around Metro Manila.

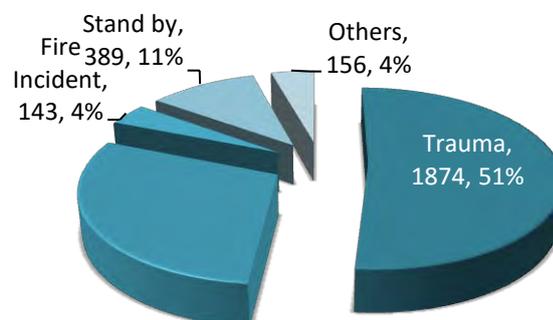
### *Incidence of Terrorism*

The Rizal Day bombings were a series of bombings that occurred during the December 30, 2000, a national holiday in close sequence within a span of a few hours. More than twenty (20) fatalities were reported and about a hundred more were non-fatal injuries. The blast occurred in five (5) different locations in Manila namely: Plaza Ferguson in Malate; cargo handling area of the Ninoy Aquino International Airport; at a gasoline station along EDSA across the Dusit Hotel in Makati City; inside a bus while travelling along EDSA and a train cab at the Blumentritt Station of the LRT Line 1. The explosion at the LRT Line 1 claimed the most number of casualties. Three of the several arrested members of the Jemaah Islamiyah were later sentenced by the Manila Trial Court of imprisonment for multiple murder and multiple frustrated murder.

In Quezon City, one recorded terrorist act is the vehicle bomb explosion which happened on November 13, 2007 near the south lobby of the main building of the House of Representatives. This claimed the lives of six (6) people including Basilan congressional representative Wahab Akbar and his legislative aides. Several legislative staff members were also hospitalized because of the attack. It was alleged that the Abu Sayyaf group claimed responsibility for the act.

### **Incidents Responded to by the City**

The Quezon City Disaster Risk Reduction and Management Office (QCDRRMO) is the lead agency of the City to matters related to local disaster risk reduction and management. The Office oversees DRRM plans, programs, projects, activities and formulates policies related to its mandate.



**Figure 24 : Type of Incidents Reported and Responded to by QCDRRMO Rescue 2018**

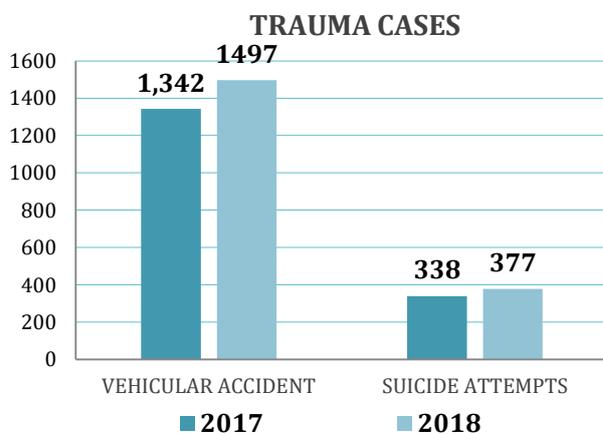
Since its establishment in 2014, the QCDRRMO has demonstrated its capability to handle disaster response operations. The goal of disaster response is to life preservation and meeting the basic subsistence needs of the affected population based on acceptable standards during or immediately after a disaster. In normal situations in which disaster response is not required, the QCDRRMO Rescue provides 24/7 emergency medical services and consequence management to incidents reported through the QC 122 hotline.

In 2018 alone, the QCDRRMO Rescue attended or responded to a total of 3,637 planned or emergency incidents and events. More than half (51%) are trauma incidents while 30% are medical cases. The rest consist of operations for consequence management in fire incidents, calls for standby medical teams, and other special requests such as support in camp management, tree-cutting, ocular inspections of risk areas, and others.

### Trauma Cases

Also in 2018, a total of 1,874 trauma cases were responded to by the QCDRRMO. These trauma cases include those that are cause by vehicular accidents and suicide attempts. The office received a peak in calls around March, May, and June.

Trauma cases which was attended to by the QCDRRMO increased from 1,680 to 1,874. Aside from the increase in population and vehicle volume within the city, improved community awareness to the QC Response Hotline 122 contributed to the increase in reported cases to the QCDRRMO. This is also attributed to the enhanced capability of the city to respond to more cases that were previously unattended due to lack of manpower, vehicles, and equipment.



Month	No. of Reported Incidents
March	185
May	184
June	182
December	163
January	161
April	160
February	158
July	157
October	144
September	139
August	130
November	111
<b>TOTAL</b>	<b>1,874</b>

Figure 25 : Dispatch/Response Operations for Trauma Cases 2017 V.S. 2018

In all of the reported trauma cases, 1,249 people treated by the QCDRRMO were injured from vehicular accidents while 296 were injured in suicide attempts.

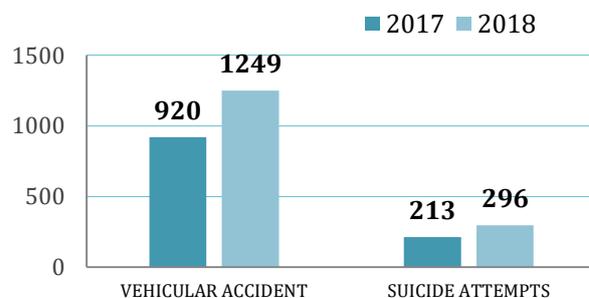
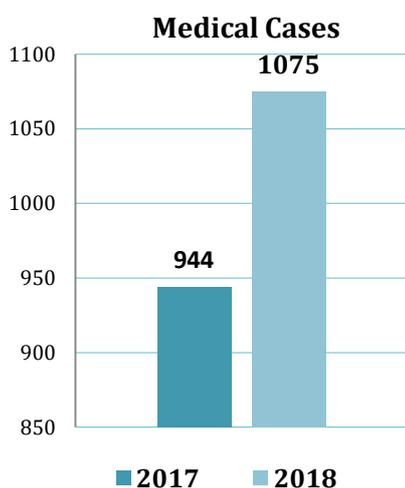


Figure 26 : Injured Persons in Trauma in 2017 V.S. 2018

## Medical Cases

The QCRRMO has responded to a total of 1,075 medical cases which include request calls for hypertension, stroke, cardiac arrests, difficulty in breathing, poisoning, among others. The office received the most number of medical calls in May and December, with January, June and August close behind. From the previous year, there had been an increase of 131 medical cases attended to in 2018.



Month	No. of Reported Incidents
May	99
December	99
January	95
June	95
August	95
October	93
September	92
March	87
November	81
July	87
April	77
February	75
TOTAL	1,075

Figure 27 : Dispatch/Medical Operations for Medical Cases 2017 vs 2018

## Operationalization of the Incident Command System

The following are the planned and unplanned incidents that have been managed by the QCRRMO using the Incident Command System for the year 2018:

### Legislations Relative to Disaster Risk Reduction and Management

**ORDINANCE NO. SP 1560, S-2005** An ordinance mandating that all personnel of Barangay Disaster Coordinating Councils in Quezon City shall undergo periodic and refresher courses in Safety and Disaster Prevention and Mitigation in order to improve the capability of the barangay councils to immediately address such incidents and problems in their areas of jurisdiction.

Table R-17 : 2018 List of Incidents Managed by the City (DRRMO) Using Incident Command System (ICS)

Activity	Date
1 <sup>st</sup> Quarter National Simultaneous Earthquake Drill	Feb 15
Holy Week	Mar 29 – Apr 01
TY Domeng	Apr 09-11
TY Henry	Jul 17
Metro Shake Drill	Jul 19
SONA	Jul 22-23
TY Karding	Aug 11-12
TY Maring	Sep 12
STY Ompong	Sep 14-15
Smart Cities Summit 2018	Oct 18
TY Rosita	Oct 29-31
OPLAN Undas	Nov 01-02

**EXECUTIVE ORDER NO. 23 SERIES OF 2010**, Organizing the Quezon City DRRMC and defining the functions, the composition and the specific roles and responsibilities of its members.

**EXECUTIVE ORDER NO. 71 SERIES OF 2011**, Creating a special task group called the West Valley Fault Task Group under the Quezon City DRRMC. This group is tasked to focus on earthquake mitigation measures and to ensure the safety of the inhabitants within the five (5) to

ten (10) meter buffer zone of the west valley fault, and to determine the response of the Quezon City Government (QCG). The task group is led by the city vice mayor and represented by different offices of the QCG.

**EXECUTIVE ORDER NO. 5 SERIES OF 2013**, Establishing and tasking the Quezon City Disaster Risk Reduction and Management Office (QCDRRMO) to begin a coherent, integrated, proficient and responsible management system to address all forms of disasters, reduce risk to human life and property, mitigate potential damage and destruction including the implementation of fast recovery and rehabilitation efforts in post-disaster conditions.

**ORDINANCE NO. SP-2290, S-2014**, Creating the Quezon City Disaster Risk Reduction and Management Office (QC DRRMO), defining its functions, duties and responsibilities, providing for its composition, appropriating funds thereof and for other purposes.

**RESOLUTION NO. SP-6006, S-2014**, Requesting the City Mayor to direct the concerned Department/Office of the Quezon City Government in accrediting potential disaster response volunteers in the Quezon City Disaster Risk Reduction and Management Office and the barangay where the employee-volunteers are residing.

**ORDINANCE NO. SP-2262, S-2014**, Mandating all private and public school teaching and non-teaching personnel to undergo Risk Reduction Training pursuant to Republic Act No. 10121, otherwise known as the Philippine Disaster Risk Reduction Management Act 2010.

**QCDRRMC Resolutions that have been approved by the QCDRRMC during the council meetings in 2018:**

- **QCDRRMC Nr 2018-01**  
A RESOLUTION EXTENDING IMMEDIATE ASSISTANCE TO THE LOCAL GOVERNMENT UNITS IN THE PROVINCE OF ALBAY WHICH ARE ADVERSELY AFFECTED BY THE ERUPTION OF MAYON VOLCANO THRU THE “MAYON CARAVAN”
- **QCDRRMC Nr 2018-02**  
A RESOLUTION ADOPTING THE MUNICIPALITIES OF BUINOBATAN, CAMALIG, DARAGA, STO. DOMINGOMALILIPOT, BACACAY ANC CITIES OF LIGAO, LEGAZPI AND TABACO, ALL IN THE PROVINCE OF ALBAY TO BE FPROVIDED WITH FINANCIAL AND OTHER MEANS OF HUMANITARIAN SUPPORT BY THE QUEZON CITY GOVERNMENT IN THE AMOUNT OF NINE MILLION PESOS (PHP 9,000,000.00)
- **QCDRRMC Nr 2018-03**  
A RESOLUTION EXTENDING ONE MILLION PESOS (PHP 1,000,000.00) TO THE PROVINCE OF ALBAY AND OTHER MEANS OF HUMANITARIAN SUPPORT BY THE QUEZON CITY GOVERNMENT
- **QCDRRMC Nr 2018-04**  
A RESOLUTION ADOPTING THE UPDATED “QUEZON CITY CONTINGENCY PLAN FOR EARTHQUAKE” SUBJECT TO ALL LAWS AND EXISTING LEGAL RULES AND REGULATIONS
- **QCDRRMC Nr 2018-05**  
A RESOLUTION EXTENDING FINANCIAL ASSISTANCE TO THE CITY OF ORMOC LEYTE THROUGH THE LOCAL DISASTER RISK REDUCTION AND MANAGEMENT FUND IN THE

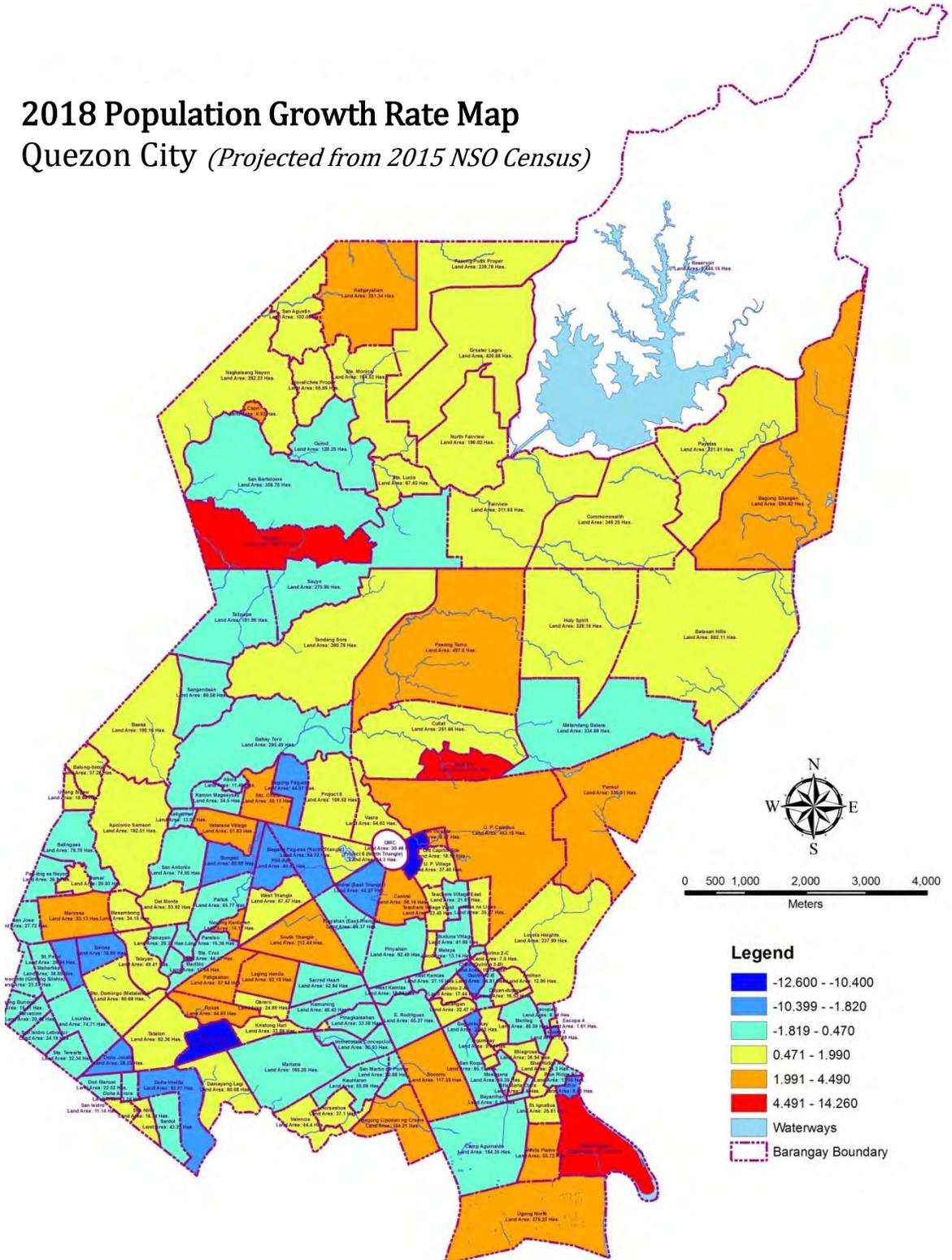
AMOUNT OF THIRTY-FOUR MILLION TWENTY-SIX THOUSAND NINE HUNDRED TWENTY-NINE PESOS AND TEN CENTAVOS (PHP 34,026,929.10) FOR THE REHABILITATION OF THE ORMOC GRANDSTAND, FOLLOWING THE MAGNITUDE 6.5 EARTHQUAKE IN LEYTE LAST 6 JULY 2017

- **QCDRRMC Nr 2018-06**  
A RESOLUTION ADOPTING THE “QUEZON CITY DISASTER RISK REDUCTION AND MANAGEMENT PLAN (QCDRRMP 2018)”, SUBJECT TO ALL EXISTING LAWS RULES AND REGULATIONS
- **QCDRRMC Nr 2018-07**  
A RESOLUTION FORMALIZING THE AGREEMENTS AMONG THE HOSPITALS AND OTHER MEDICAL FACILITIES LOCATED ALONG THE NOVALICHES AREA AND TO SUBSUME THEIR RESOURCES UNDER THE HEALTH RESPONSE CLUSTER OF THE CONTINGENCY PLAN FOR EARTHQUAKE
- **QCDRRMC Nr 2018-08**  
A RESOLUTION ALLOCATING AN AMOUNT OF PHP 100M (ONE-HUNDRED MILLION) PESOS IN THE LDRRMF AS FINANCIAL ASSISTANCE TO PHILIPPINE LOCAL GOVERNMENT UNITS AFFECTED BY DISASTERS OR COMPLEX EMERGENCIES IN ACCORDANCE WITH RELEVANT LAWS AND EXISTING RULES AND REGULATIONS
- **QCDRRMC Nr 2018-09**  
A RESOLUTION REQUIRING BUSINESSES, EDUCATIONAL INSTITUTIONS, AND HEALTH CARE FACILITIES TO SUBMIT THEIR DRRM PLANS, CONTINGENCY, EMERGENCY PLANS AND OTHER RELATED PLANS TO THE QUEZON CITY GOVERNMENT FOR INTEGRATION INTO THE CITY’S PLANS FOR DRRM
- **QCDRRMC Nr 2018-10**  
A RESOLUTION ADOPTING THE “UNEXPENDED FUND 2013-2017” SUBJECT TO ALL RELEVANT LAWS AND EXISTING RULES AND REGULATIONS
- **QCDRRMC Nr 2018 - 11**  
A RESOLUTION ADOPTING THE UPDATED “QUEZON CITY CONTINGENCY PLAN FOR HYDROMETEOROLOGICAL HAZARDS - EXTREME RAINFALL” SUBJECT TO RELEVANT LAWS AND EXISTING RULES AND REGULATIONS
- **QCDRRMC Nr 2018 - 12**  
A RESOLUTION ADOPTING THE “LOCAL DISASTER RISK REDUCTION AND MANAGEMENT FUND AND QUICK RESPONSE FUND FOR FISCAL YEAR 2019” SUBJECT TO RELEVANT LAWS AND EXISTING RULES AND REGULATIONS
- **QCDRRMC Nr 2018- 13**  
A RESOLUTION ADOPTING THE “QUEZON CITY DISASTER RISK REDUCTION AND MANAGEMENT PLAN (QCDRRMP 2018)”, SUBJECT TO ALL EXISTING LAWS RULES AND REGULATIONS
- **QCDRRMC Nr 2018- 14**  
A RESOLUTION ADOPTING “QUEZON CITY CONTINGENCY PLAN FOR HIGH DENSITY POPULATION GATHERINGS” SUBJECT TO RELEVANT LAWS AND EXISTING RULES AND REGULATIONS

# Annex 1

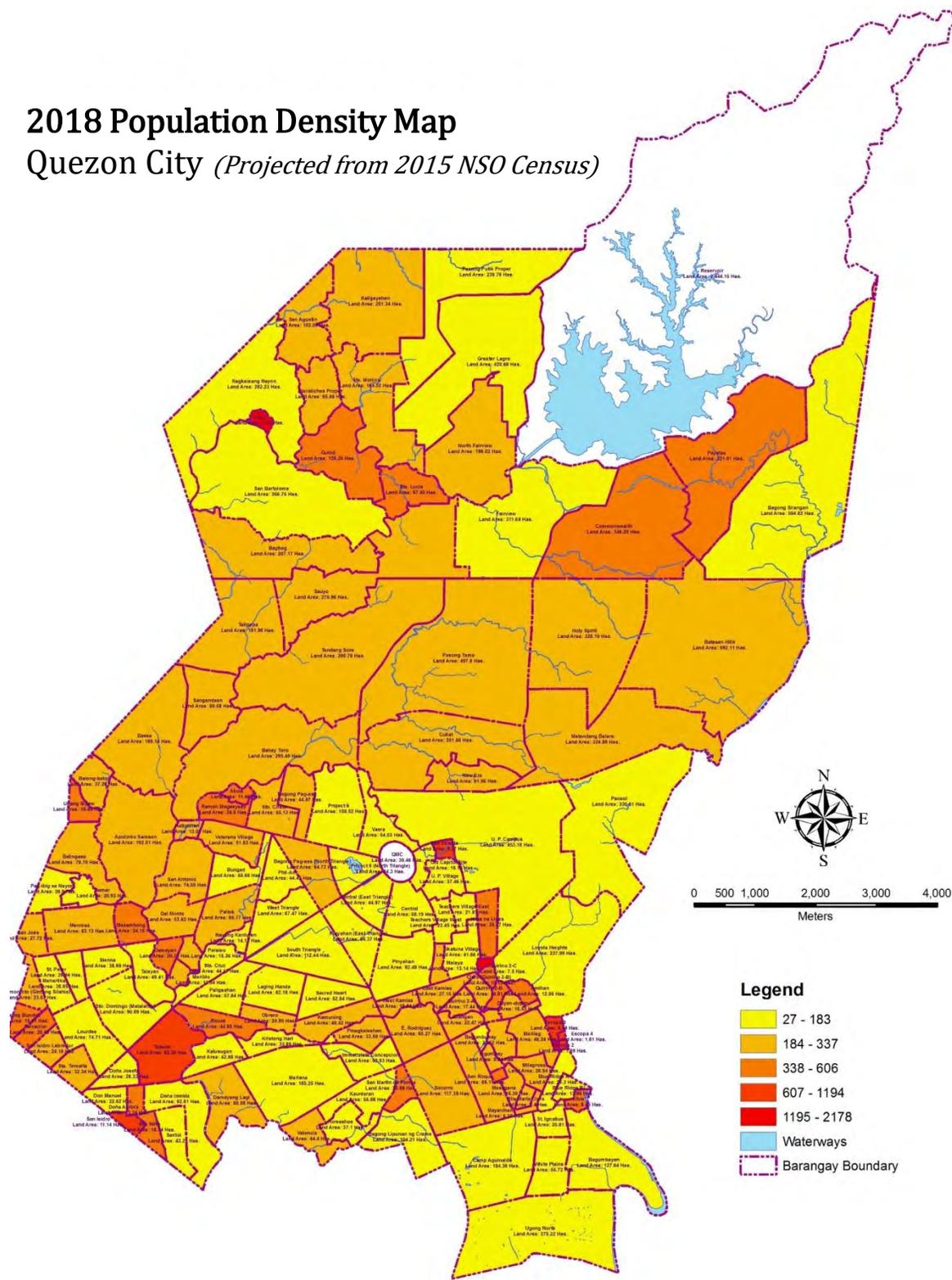
## QC Thematic Maps

### 2018 Population Growth Rate Map Quezon City (Projected from 2015 NSO Census)



# 2018 Population Density Map

## Quezon City (Projected from 2015 NSO Census)



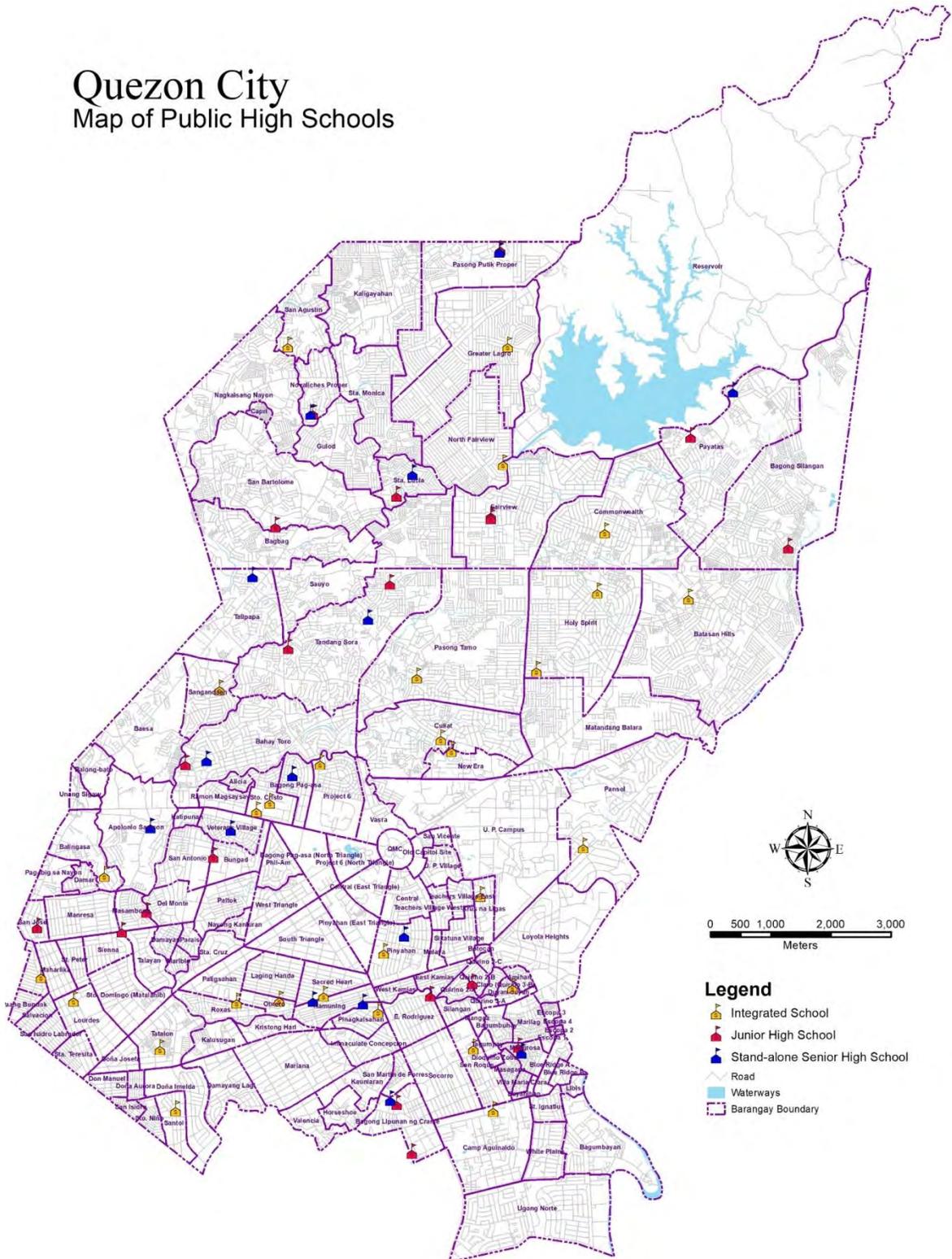
**Legend**

- 27 - 183
- 184 - 337
- 338 - 606
- 607 - 1194
- 1195 - 2178
- Waterways
- Barangay Boundary



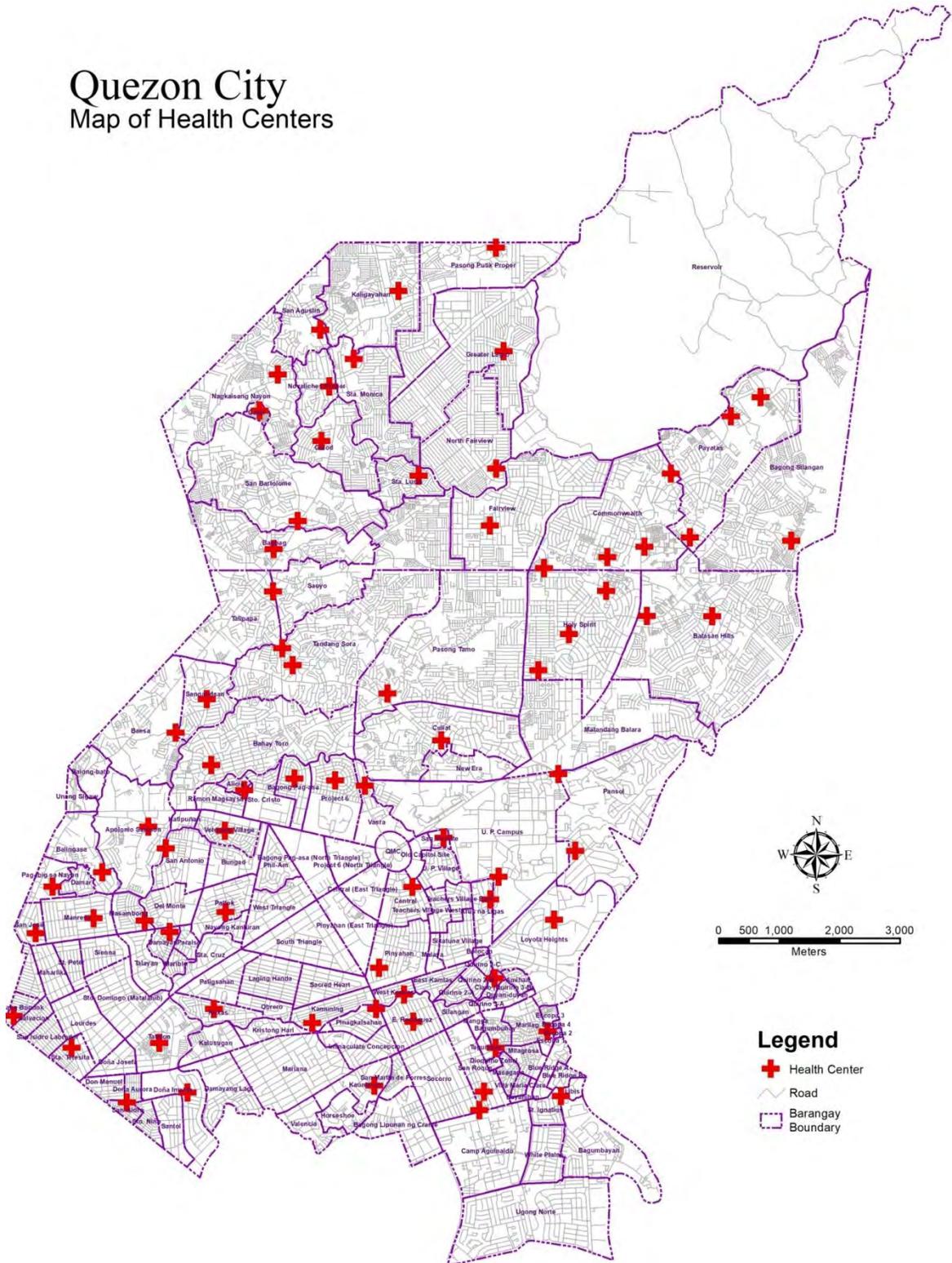
# Quezon City

## Map of Public High Schools



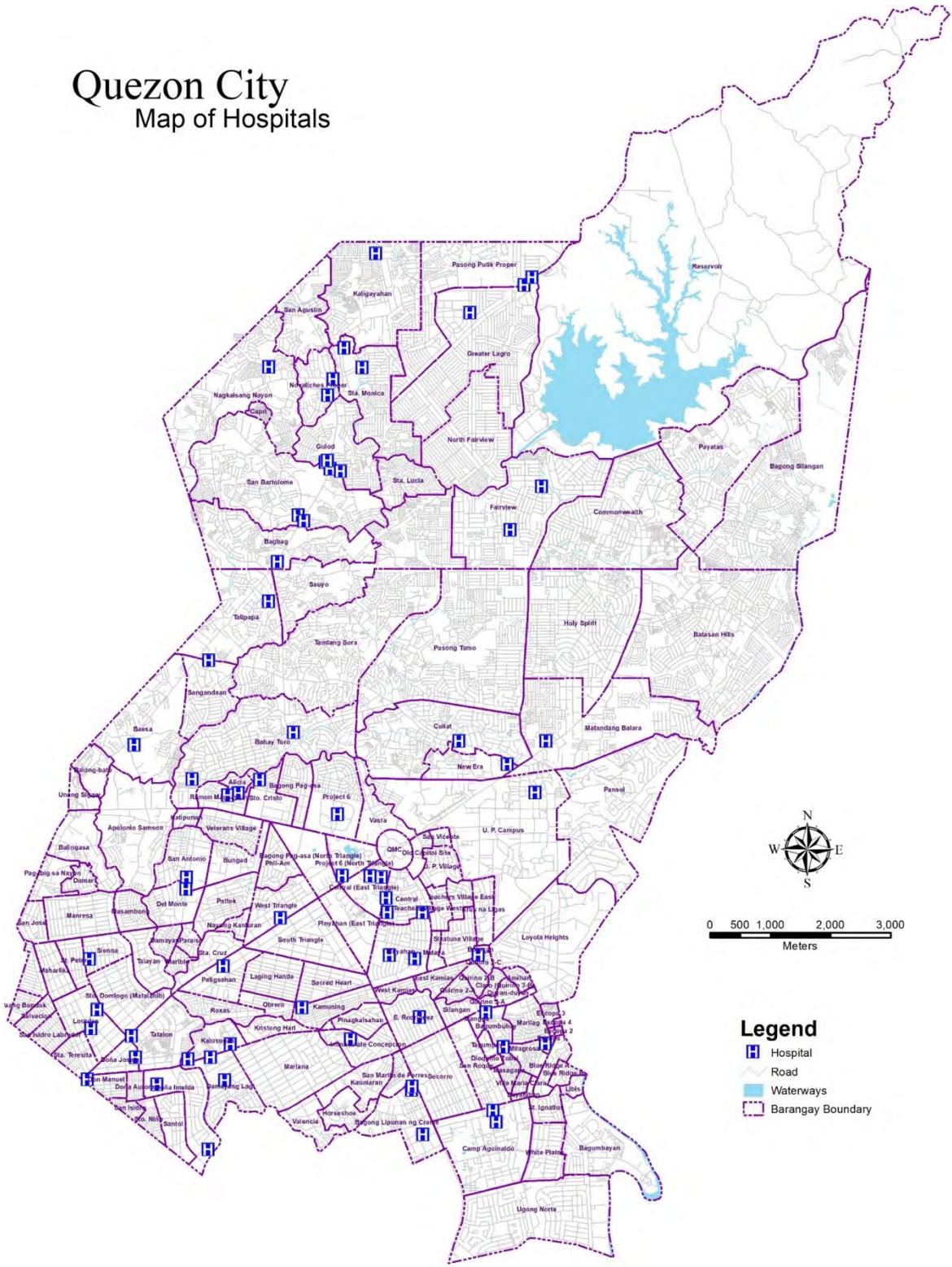
# Quezon City

## Map of Health Centers



# Quezon City

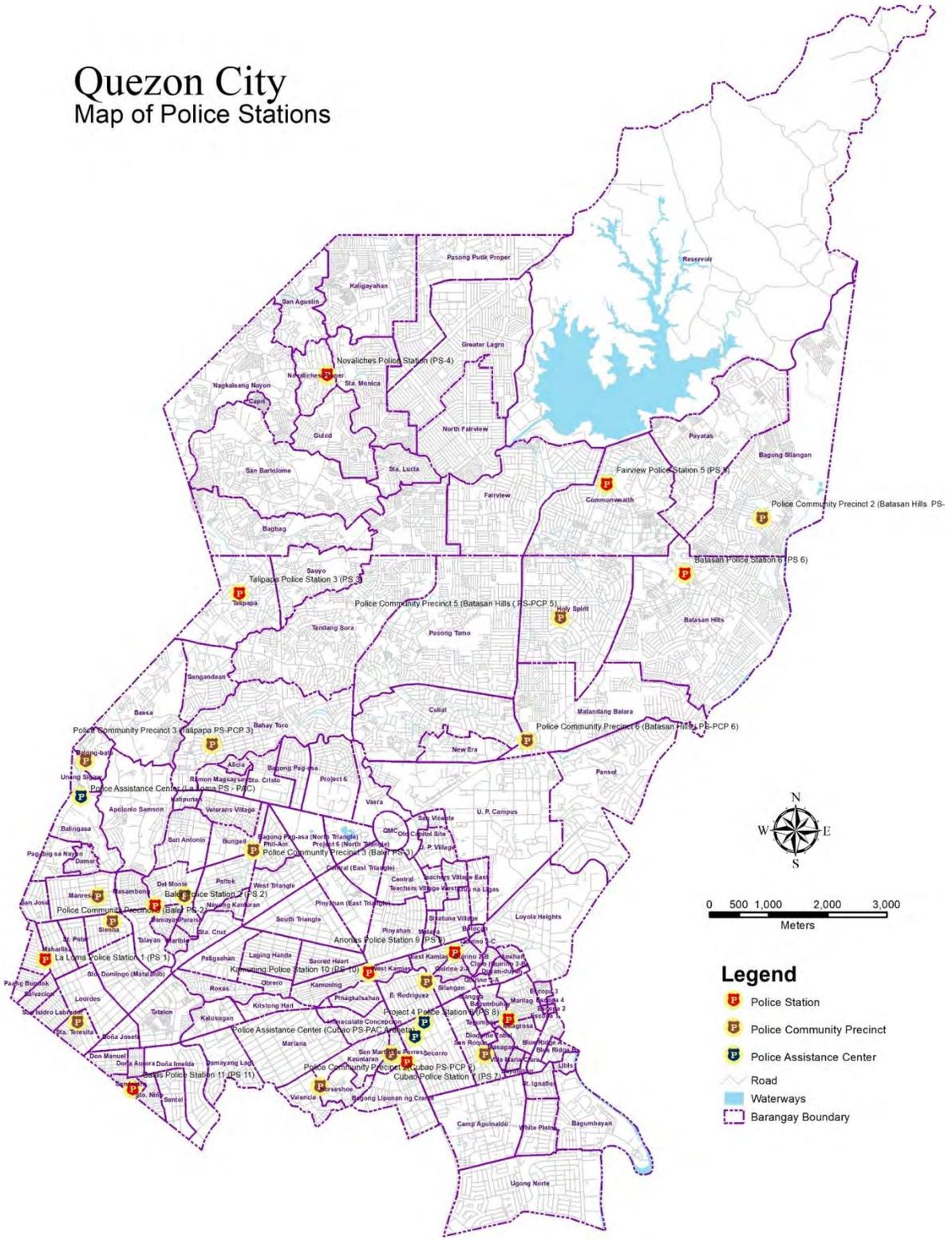
## Map of Hospitals



- Legend**
-  Hospital
  -  Road
  -  Waterways
  -  Barangay Boundary

# Quezon City

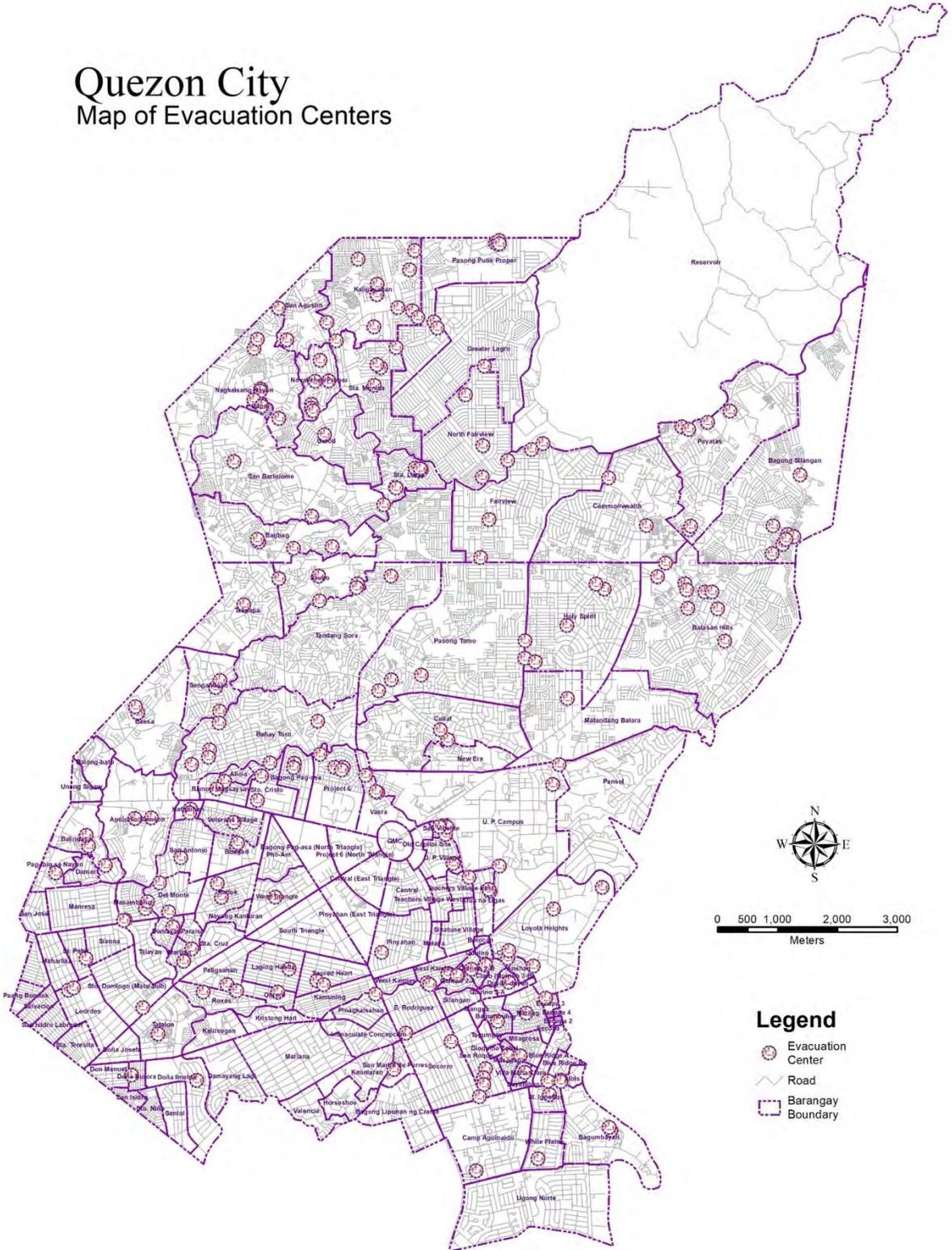
## Map of Police Stations



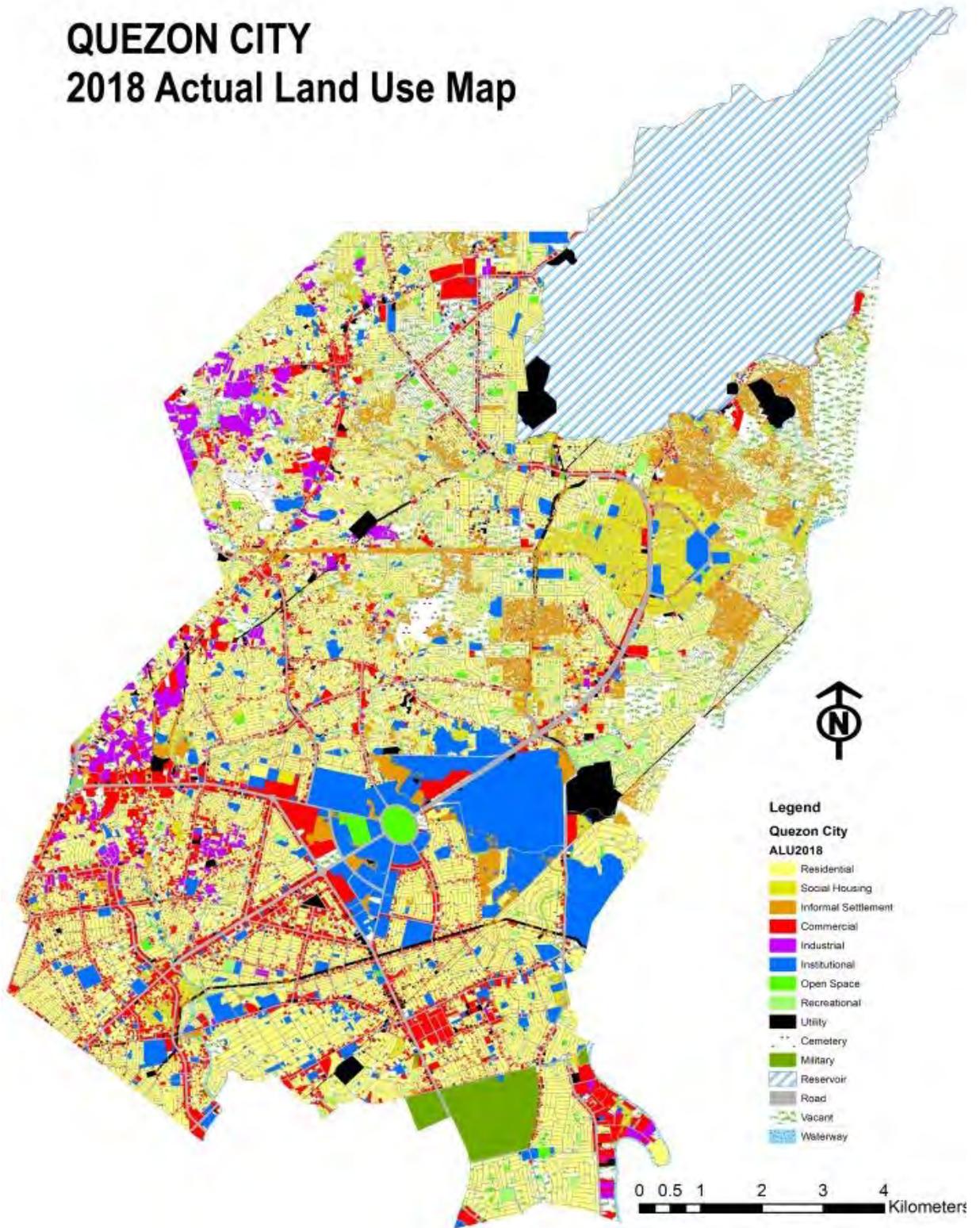


# Quezon City

## Map of Evacuation Centers



# QUEZON CITY 2018 Actual Land Use Map



## LIST OF QCLGU DEPARTMENTS/OFFICES & OTHER OPERATING UNITS

NAME OF DEPARTMENT	LEGAL MANDATE
1. Office of the City Mayor	Commonwealth Act 502 as amended by RA 537 as amended by RA 7160; Ord. No. SP-2506,S-2016
2. City Administrator's Department	RA 7160 Sec. 480; Ord. No. 154, S- 1990
3. City Planning and Development Department (CPDD) Gender and Development Council Office (GAD)	RA 7160 Sec 476; Ord. No. SP 1965,S-2009; Ord. No SP-2502,S-2016, Sec. 57; EO No. 10, S-2014; Ord. No. SP-2672, S-2018; MMC Exec. Ord. No. 87-06; Ord. No. 282, S-1992 (additional position)
4. City Legal Department (PALAO)	Comm. Act 502 as revised by RA 537; RA 7160 Sec. 481; Ord. No. 9983, S-1973; Ord. No. NC 83, S-1989; EO No. 25, S-1989
5. City General Services Department (CGSD)	RA 7160, sec. 490; EO No. 5, S-1985; Ord. No. SP-2662, S-207; Ord. No. SP-2750, S-2018
6. City Civil Registry Department (CCRD)	RA 3753; RA 7160, sec 479; RA 9048; RA 10172; The Civil Code
7. City Budget Department (CBD)	COA Circular No. 2006-02; RA 7160 sec. 475
8. City Accounting Department (CAD)	Ord. No. SP-635, s-1998; RA 7160, sec. 474
9. Dept. of Public Order & Safety (DPOS)	Ord. No. NC-140, s-1990; Ord. No. SP-15, s-1992; NC 1444, s-2014; Ord. No. SP-2447, s-2015
10. Social Services Development Department (SSDD)	Ord. 316, s-1990; EO No. 005, s-1992; RA 7160; Ord. No. SP-2402, s-2015, Ord. No. NC-168, s-1990
11. Env'l. Protection Waste Management Dept (EPWMD)	Ord No. SP- 982, s-2000 as amended; Ord. No. SP-1054, s-2001; Ord. No. SP-2350, s-2014, Sec. 2; RA 7160; RA 9003; RA 8749; RA 9729; RA 9275
12. Parks Development Admin. Department (PDAD)	Ord. No. NC-134, s-1990
13. Market Development Admin. Department (MDAD)	Ord. No. SP 950, s-2000; Ord. No. SP 944, s-2000
14. City Assessors' Department (CAD)	Ord. No. NC-261, s-1992; RA 7160, sec. 472
15. City Treasurer's Department (CTD)	RA 7160, sec. 470
16. City Engineering Department (CED)	RA 7160, sec. 477
17. Department of Building Official (DBO)	Ord. No. SP-1944, s-2009
18. City Health Department (CHD)	RA 7160, Art. 8, sec. 478; EO No. 5, s-2015
19. QC General Hospital (QCGH)	RA 6548 dated Aug 26, 1978; Ord. No. SP- 7555, s-1968; Ord. No. SP-2152, s-2011
20. Novaliches District Hospital (NDH)	Ord. No. SP-623, s-1998; Ord. No. SP-997, s-2001; Ord. No. SP-2516, s-2016; Ord. No. SP-2516, s-2016; Ord. No. SP-1002, s-2001; Ord. No. NC-168, s-1990
21. Rosario Maclang Bautista Gen. Hospital (RMBGH)	Ord. No. SP- 2580, s-2017; Ord. No. SP-2642, s-2017
22. Business Permits Licensing Department (BPLD) (LLRB)	RA 7160, sec. 277; Ord. No. SP-2642, s-2017; Ord. No. SP-2571, s-2017; Ord. No. SP-91, S-1993; MMC Ord. No. 82-03;
23. Human Resource Management Department	RA 2260, Sec. 21, s-59P; Ord. No. SP-2571, s-2017
24. Barangay Community Relations Department (BCRD)	Ord. No. SP- 2563, s-2017; Ord. No. SP-2563, s-2017
25. Housing, Community Development Resettlement Department (HCDRD)	Ord. No. SP- 2129, s-2012; Ord. No. SP-2187, s-2012; Ord. No. 2444, s-2015; Ord. No. SP- 2491, s-2016; RA 2260, S-1959 (Art II, Sec.21) Book V of EO 292 (Administrative Code of 1987)

26. Information Technology Development Department (ITDD)	Ord. No. SR- 1844, s-2008; as amended by Ord. No. SP-1943, s-2009; Ord. No. SP-2571, s-2017; Office Ord. No. 26, S-2001
27. Procurement Department	Ord. No. SP- 1978 and RA 9184 (procurement Law); Ord. No. SP 2571, s-2017
28. QC Polytechnic University (QCPU)	Ord. No. SP-1030, s-2001; Ord. No. SP-1945, s-2009 (QCPU Charter); Ord. No. SP-2308, s-2014; Ord. No. SP-171, S-1994; Ord. No. SP-544, S-1997
29. Public Affairs Information Services Department (PAISD)	RA 7160, sec. 486; Ord. No. 5952, s-1964
30. Novaliches District Center (NDC)	Circular No. 1, s-1982
31. City Tourism Department (former CTAO)	Ord. No. SP-2218, s-2013, Ord. No. 7164, s-1967
32. City Architect Department (CAD)	RA 7160, sec. 485; Ord. No. SP-2316, s-2014
33. City Veterinary Department	RA 7160 , sec. 17
34. QC Public Library	Ord. No. SP-3559, s-1957; Ord. No. 7158, S-1967

NAME OF OFFICE	LEGAL MANDATE
1. Public Employment Services Offices (PESO)	Ord. No. SP-2657, s-2017; RA 7160, Sec. 470; Sec. 5 RA 8759, S-1999; Sec. 6, RA 8759, series 1999; Sec. 1 RA 9547, series 2009
2. QC Small Business Development & Promotion Office (QCBDO)	Ord. No. SP-2364,s-2014 & Magna Carta for Micro Small Enterprise (RA 6977 as amended by RA 8289 & RA 9501)
3. Radio Communications and Services Office	Ord. No. SP- 173, s-1990; Ord. No. SP-2029, s-2010; EO No. 11, s-2016; Ord. No. SP-2424, s-2015; EO No. 21, S-1987
4. Local Economic Investment Promotions Office (LEIPO)	Ord. No. SP-2219, s-2013
5. Scholarship & Youth Development Office	QC Council Resolution No. NC- 577, s-1991; Ord. No. SP-2165, s-2002; Ord. No. SP- 2366, s-2004; EO No. 5, S-2003

NAME OF TASK FORCE/SPECIAL OPERATING UNITS	LEGAL MANDATE
1. Office of the Senior Citizen	RA 7432, sec. 7 as amended by RA9974, s-2010; Ord. No. SP- 2590, s-2004; DA Adm. Order No. 30, Sec. 3 and 5, S-2005
2. Task Force COPRISS	EO No. 1, s-1996; EO 13, s-1987
3. Amoranto Sports Complex	EO No. 7, s-1989; Ord. No. SP- 1187, s-2002; Ord. No. SP-1787, s-2007
4. Liga ng mga Barangay	RA 7160, s-491

**NATIONAL GOVERNMENT AGENCIES (NGAs) with Financial Assistance from QCG/Operating in QC**

NAME OF DEPARTMENT/OFFICE	LEGAL MANDATE
1. QC Police District	RA 6925
2. Division of City Schools, Quezon City	RA 9155
3. City Prosecutor's Office	RA 537, sec 28 dated June 16, 1960
4. Metropolitan Trial Court (MTC)	PD 500
5. Regional Trial Court (RTC)	PD 500, BP 129, RA 7160
6. QC Fire Department	
7. QC Jail	RA 6975
8. Commission on Audit (COA)	1987 Constitution; pertinent provision of RA 7160
9. QC Probation & Parole Office	PD 968 (Probation Law of 1976)
10. National Bureau of Investigation (NBI)	Commonwealth Act No. 181, s-1936, RA 157 dated June 19, 1947 as amended by EO 94, s-1947
11. Metro Manila Development Authority	

**Other Offices/Board/Council/Special Bodies**

NAME OF DEPARTMENT/OFFICE	LEGAL MANDATE
1. Administrative Management Office (City Mayor)	Ord. No. NC-280, S-1992; EO 26, s-1994
2. Community Relations Office (merged with BOC/BCRD)	MMC Guidelines dated March 20, 1979
3. Task Force Amusement Tax	EO No. 9, S-1992
4. Industrial Relations Office	EO No. 4, S-1989
5. Sikap Buhay	EO No. 1, S-2001
6. Office of the Secretary to the Board of Assessment Appeals	PD 464, RA 7160, Sec. 277
7. Liquor Licensing and Regulatory Board	Ord. No. NC-85, S-1989
8. People's Law Enforcement Board	RA 7160, RA 6975, S-1990, Sec.43 as amended by RA 8551, dated Feb. 5, 1988; Ord. No. NC-207 S-1991
9. Gender and Dev't Resource & Coordination Office	Ord. No. SP-1036, S-01; EO No. 16, S-2002
10. Housing and Urban Renewal Authority, Inc	Ord. No. SP-1236, S-2003
11. Anti-Poverty Committee	EO No. 14 S-2002
12. Pre-Qualification, Bids and Awards	RA 7160, EO No. 10, S-1993; EO No. 7, S-2001
13. Infrastructure Development Committee	EO No. 3, S-2002
14. Committee on the Implementation of Auction Sale of Delinquent Real Properties in QC	EO No. 5, S-2002
15. Committee on Waterways	EO No. 6, S-2002
16. Ad Hoc Committee on Pugad Lawin Housing Project	EO No. 8, S-2002
17. Barangay Operations Center	EO No. 15, S-1974, MMC Circular No. 13, S-1981
18. Payatas Operations Group	Adm. Ord. 1, S-2000
19. QC Performing Arts Development Foundation, Inc	EO No. 4, S-1994
20. Subdivision Administration Unit	Ord. No. SP-56, S-1993
21. Business Affairs Coordinating Office	
22. Technical Assistance Committee	Office Ord. No. 3, S-2001
23. Joint Committee on QC Gov't Properties	EO No. 28, S-2002
24. Signage and Outdoor Advertising Committee	EO No. 9, S-2002
25. QC Hall Complex Development Committee	EO No. 7, S-2002
26. QC Appraisal Committee	EO No. 10, S-2002

27. Local Productivity and Performance Measurement System (LPPMS) Committee	EO No. 22, S-2002
28. Search Committee for Cleanest & Greenest Barangay (Gawad Pangulo sa Kapaligiran)	EO No. 23, S-2002
29. Ad Hoc Committee for the Pugad Lawin Shrine	EO No. 50, S-2003
30. Committee on Fees and Charges	EO No. 6, S-2003
31. Quezon City Education Committee	EO No. 8, S-2003
32. QC Youth Secretariat	EO No. 5, S-2003
33. QC Nutrition Committee	EO No. 7, S-2003
34. UNICEF	EO No. 4, S-1999
35. City Finance Committee	EO No. 5, S-2001
36. Committee on Awards	Office Order No. 35, S-2001; EO No. 7, S-2001; EO No. 8, S-2004; EO No. 8-A, S-2004
37. QC Census Coordinating Board	EO No. 1, S-2003; EO No. 1-A, S-2003
38. Local School Board	RA 7160
39. Local Health Board	RA 7160; EO No. 5
40. Personnel Selection Board	EO No. 13, S-2002
41. City Development Council	RA 7160
42. QC Peace and Order Council	EO No. 20, S-2002
43. QC Disaster Coordinating Council	EO No. 22, S-1986
44. QC-STD AIDS	Ord. No. SP-838, S-1999; EO No. 10, S-1994; EO No. 10-A, S-1994
45. Office of the Vice Mayor  Legislative, Investigative & Action Group Sports Development Center Task Force Greening Drug Rehabilitation & Treatment Center Healthy Cities Initiative Program	Commonwealth Act No. 502, S-1939 as revised by RA No. 537, S-1950; RA 7160, Sec. 456  Ord. No. 251, S-1994  Ord. No. NC-146, S-1990 EO No. 10, S-1999
46. City Council	Commonwealth Act No. 502, S-1939 as revised by RA No. 537, S-1950, RA 7160, Sec. 457
47. Secretary to the Sanggunian	Commonwealth Act No. 502, S-1939 as revised by RA No. 537, S-1950, RA 7160
48. Blue Ribbon Committee	Res. No. SP 501-S-1995 as amended by Res. No. SP-982, S-1998
49. Tricycle Franchising Board	Ord. No. SP-15, S-1992
50. QC Sports Development Council	Ord. No. SP-251, S-94; (Amended EO No. 2, S-2001)
51. Disabled Persons Affairs Committee	SP-1141, S-2002; Ord. D156 No. 158, S-1994
52. QCADAC	Ord. No. SP-1264, S-2003; EO No. 7, S-1996 (amended EO No. 3, dated Sept. 30, 2001)
53. Tahanan	Ord. No. NC-146, S-1990
54. PALAO	Ord. No. NC 83, S-1989
55. Sec. SP	Com. Act. No. 502 as amended by RA 537, S-1950; RA 7160, Sec. 469
56. Greening	
57. Healthy	EO No. 10, S-1999; EO No. 2 dated Sept. 14, 2001
58. Computerization	
59. Performing Arts	Res. No. SP-1859, S-2000; EO No. 4, S-1994
60. Film	
61. SICACAEBO	Ord. No. 798, S-1999; Ord. No. 805, S-1999; Sec. 5 & 63 of RA 7160

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

PO2009-137

75<sup>th</sup> Regular Session

ORDINANCE NO. SP-**1986**, S-2009

**AN ORDINANCE GIVING DUE RECOGNITION AND REWARD TO CITY RESIDENTS AGED 100 YEARS OR MORE AS PART OF THE CITY'S EFFORT TO SUPPORT SENIOR CITIZENS.**

*Introduced by Councilors* **EDCEL B. LAGMAN, JR., FRANCISCO A. CALALAY, JR., BERNADETTE HERRERA-DY, DOROTHY A. DELARMENTE, VICTOR V. FERRER, JR., JOSEPH P. JUICO, RICARDO T. BELMONTE, JR., WINSTON "Winnie" T. CASTELO, RAMON P. MEDALLA, ALLAN BUTCH T. FRANCISCO, VOLTAIRE GODOFREDO L. LIBAN III, EDEN "Candy" A. MEDINA, JORGE B. BANAL, JR., FRANZ S. PUMAREN, WENCEROM BENEDICT C. LAGUMBAY, DANTE M. DE GUZMAN, DIORELLA MARLA G. SOTTO, JAIME F. BORRES, ANTONIO E. INTON, JR., JESUS MANUEL C. SUNTAY, JANET M. MALAYA, VINCENT DG. BELMONTE, RESTITUTO B. MALAÑGEN, CONCEPCION S. MALAÑGEN and ALEXIS GRACE R. MATIAS.**

*WHEREAS, Article XV, Section 4 of the Constitution mandates that it is the duty of the family to take care of its elderly members but the State may also design programs of social security for them;*

*WHEREAS, in addition to the abovementioned provision, Article XIII, Section 11 of the Constitution also provides that the "State shall adopt an integrated and comprehensive approach to health development which shall endeavor to make essential goods, health and other social services available to all people at affordable cost. There shall be priority for the needs of the underprivileged, sick, elderly, disabled, women and children";*

*WHEREAS, in consonance with the said Constitutional provisions, the Congress of the Philippines enacted Republic Act No. 7432, otherwise known as Senior Citizens Law to primarily protect the elder members of the society;*

*[Handwritten signatures and initials]*

*WHEREAS, also Article III, Section 458, Paragraph (5) (XVII) of the Local Government Code provides that the Sangguniang Panlungsod shall approve ordinance which shall ensure the efficient and effective delivery of basic services and facilities ~~xxxxx~~ and in addition shall, formulate policies and adopt measure mutually beneficial to the elderly and to the community, provide incentives for non-governmental agencies and entities and, subject to the availability of funds, appropriate funds to support programs and projects for the benefit of the Senior Citizens;*

*WHEREAS, Senior Citizens belong to a special sector that needs singular attention to promote their social, economic and spiritual aspect of their lives, as well as allow them to convey their special concerns;*

*WHEREAS, a centenarian is a person who has attained the age of one hundred (100) years or more and such term is closely associated with longevity;*

*WHEREAS, there are many centenarians in Quezon City but this fact is not formally recorded nor acknowledged officially. Considering that hey are the living link to our history, appropriate recognition and reward should be accorded to them.*

**NOW, THEREFORE,**

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

*SECTION 1. Title. – This enactment shall be known and cited as "An Ordinance giving due recognition and reward to city residents aged 100 years or more as part of the city's effort to support senior citizens";*

*SECTION 2. Before a centenarian can be recognized and given the appurtenant reward, the following conditions shall be complied with:*

- (a). Residents who are one hundred (100) years old or more must registered at the Office of the Senior Citizens Affairs (OSCA) of Quezon City for proper identification and documentation.*
- (b). The centenarian must show that they are bonafide residents of Quezon City.*
- (c). Upon presentment of proper and authentic documents, the city government will grant each of the centenarian an amount of Ten Thousand Pesos (P10,000.00) cash incentive.*

*5*  
*[Handwritten signature]*  
*[Handwritten initials]*

**SECTION 3. Centenarians shall be recognized by inviting them at Flag Ceremony every Monday and their remarkable stories shall be published in any newspaper of general circulation in Quezon City.**

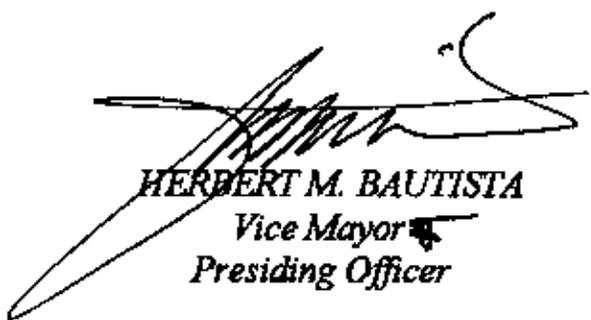
**SECTION 4. The centenarians shall be given Christmas gifts and Birthday gifts in the amount of Two Thousand Pesos (P2,000.00) as part of their reward from the Quezon City government in addition to the Ten Thousand Pesos (P10,000.00) cash incentive.**

**SECTION 5. Repealing Clause. – All existing ordinances, resolutions, local executive orders, and other rules and regulations which are inconsistent herewith are hereby repealed and/or modified accordingly.**

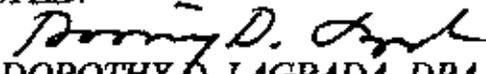
**SECTION 6. Separability Clause – Should any of these clauses or parts of this Ordinance be declared unconstitutional by any court of competent jurisdiction, all other remaining portions not so declared shall remain valid and effective.**

**SECTION 7. Effectivity – This Ordinance shall take effect upon its approval.**

ENACTED: December 14, 2009.

  
HERBERT M. BAUTISTA  
Vice Mayor  
Presiding Officer

ATTESTED:

  
DOROTHY D. LAGRADA, DPA  
City Secretary

APPROVED: Feb. 17, 2010

  
FELICIANO R. BELMONTE, JR.  
City Mayor

**CERTIFICATION**

**This is to certify that this Ordinance was APPROVED by the City Council on Second Reading on December 14, 2009 and was finally PASSED on Third/Final Reading under Suspended Rules on the same date.**

  
DOROTHY D. LAGRADA, DPA  
City Secretary



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

PO2013-35

85<sup>th</sup> Regular Session

ORDINANCE NO. SP- 2226, S-2013

**AN ORDINANCE CREATING A SPECIAL ACCOUNT OUT OF THE PROCEEDS COLLECTED UNDER THE QUEZON CITY HOUSING PROGRAMS SUCH AS THE COMMUNITY MORTGAGE PROGRAM (CMP), DIRECT SALE OF CITY GOVERNMENT REAL PROPERTIES, SOCIALIZED HOUSING TAX (SHT), IDLE LAND TAX, INCOME FROM THE NATIONAL GOVERNMENT CENTER EASTSIDE AND WESTSIDE DEVELOPMENT PROJECTS AND REAL PROPERTY TAX GENERATED FROM OTHER NEWLY ACQUIRED AND REDISTRIBUTED REAL PROPERTIES, ALL TO BE DEPOSITED IN A SPECIAL ACCOUNT TO BE KNOWN AS THE "SOCIALIZED HOUSING SPECIAL ACCOUNT" OF QUEZON CITY.**

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*Introduced by Councilor ALEXIS R. HERRERA, DOROTHY A. DELARMENTE, ANTHONY PETER D. CRISOLOGO, RICARDO T. BELMONTE, JR., JOSEPH P. JUICO, PRECIOUS HIPOLITO CASTELO, ALFREDO D. VARGAS III, EDEN "CANDY" A. MEDINA, JULIENNE ALYSON RAE V. MEDALLA, RODERICK M. PAULATE, GODOFREDO T. LIBAN II, JULIAN ML. COSETENG, ALLAN BENEDICT S. REYES, JAIME F. BORRES, JOSE MARIO DON S. DE LEON, GIAN CARLO G. SOTTO, EUFEMIO C. LAGUMBAY, JESUS MANUEL C. SUNTAY, JESSICA CASTELO DAZA, RAQUEL S. MALAÑGEN, VINCENT DG. BELMONTE, IVY LIM-LAGMAN and RANULFO Z. LUDOVICA.*

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*fff*      *DS*      *x*      *D*  
*—*

*WHEREAS, the Quezon City Government has made housing and resettlement a priority program and its implementation entails a huge amount of money;*

*WHEREAS, under the Community Mortgage Program, the Quezon City Government derives revenues in the form of origination fees from the Socialized Housing Finance Corporation (SHFC) to accommodate priority socialized housing projects identified by the city;*

*WHEREAS, as part of the City's on-site development, the Quezon City Government acquires public lands through the Community Mortgage Program for socialized housing projects and redistribute them, while Quezon City-owned lands are offered through direct sale;*

*WHEREAS, pursuant to the provisions of R.A. No. 7279 and the Department of Finance Local Finance Circular No. 1-97, dated 10 April 1997, the Quezon City Government is collecting the Socialized Housing Tax (SHT) in order to generate much needed funds for the Socialized Housing and Resettlement Program of the City Government;*

*WHEREAS, the Socialized Housing Tax (SHT) under Ordinance No. SP-2095, S-2011 imposed an additional one-half (0.5%) percent tax on assessed value of all lands in urban areas in excess of P100,000.00 for five (5) years. Twenty Six percent (26%) of real property taxpayers in Quezon City are affected and subject to the Socialized Housing Tax (SHT);*

*WHEREAS, Local Governments are also empowered to impose an idle land tax and a special levy on real properties. The tax on idle lands is intended to optimize land utilization;* x

*[Handwritten signatures]*

*WHEREAS, Republic Act No. 9207 declared certain portions of the National Government Center site open for disposition to bona fide residents and local government or community facilities occupying the same for socio-economic, civic and religious purposes, amending Proclamation No. 1826, Series of 1979;*

*WHEREAS, all real properties acquired by the City through the community mortgage program and disposed portions of the National Government Center, Housing and Development Projects which may have been distributed to qualified beneficiaries are subject to real property tax;*

*WHEREAS, the real property tax accruing from these new acquisition, not previously taxed, shall be regarded as special real property tax which will be a new source of income for the city and shall be deposited in the Special Account;*

*WHEREAS, the special real property taxes of the newly acquired real properties shall be collected based on the assessed value of the real property net of the Special Education Fund and the 30% Barangay Share which are ordinarily collected jointly with the regular real property basic tax;*

*WHEREAS, Ordinance No. SP-1973, S-2009 appropriated the amount of Eighteen Million Five Hundred Eighty Five Thousand Pesos (P18,585,000.00) for the approval of the Community Development Project of the National Government-Eastside Projects;*

*WHEREAS, there is a need to safeguard the use of the said funds and see to it that the same shall be used exclusively for the Socialized Housing Program of the City Government. X*

*Jff. S e*

NOW, THEREFORE,

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

**SECTION 1.** There is hereby created a Special Account to be known as the "Socialized Housing Special Account" of Quezon City wherein the proceeds collected under the Quezon City housing programs such as the Community Mortgage Program (CMP), Direct Sale of City Government real properties, Idle Land Tax, Socialized Housing Tax (SHT), income from the National Government Center Eastside and Westside development projects and real property tax generated from other newly acquired and redistributed real properties are to be deposited or credited.

**SECTION 2.** No money from the Socialized Housing Special Account of Quezon City shall be disbursed without the approval of the Quezon City Local Housing Board.

**SECTION 3.** This special account shall be reserved exclusively for the development and improvement of socialized housing projects of the City.

**SECTION 4.** The Local Housing Board of Quezon City shall issue the Implementing Rules and Regulations and guidelines for the proper implementation of this Ordinance, within a period of thirty (30) days from the approval hereof.

**SECTION 5.** Any provisions of Ordinances, Rules and Regulations inconsistent herewith are hereby repealed, amended or modified accordingly. ✓

*[Handwritten signatures and initials]*

85<sup>th</sup> Regular Session

Ord. No. SP- 2226, S-2013  
Page -5- PO2013-35

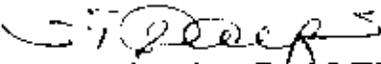
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**SECTION 6.** *This Ordinance shall take effect immediately upon its approval.*

**ENACTED:** June 24, 2013

  
**JOSEPH P. JUICO**  
President Pro-Tempore  
Acting Presiding Officer

**ATTESTED:**

  
**Atty. JOHN THOMAS S. ALFEROS III**  
City Gov't. Asst. Dept Head III

**APPROVED:**         JUN 25 2013        

  
**HERBERT M. BAUTISTA**  
City Mayor

**CERTIFICATION**

*This is to certify that this Ordinance was APPROVED by the City Council on Second Reading on June 24, 2013 and was PASSED on Third/Final Reading under Suspended Rules on the same date.*

  
**Atty. JOHN THOMAS S. ALFEROS III**  
City Gov't. Asst. Dept Head III



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

PO2008-96

48<sup>th</sup> Regular Session

ORDINANCE NO. SP-1917S-2009

**AN ORDINANCE REQUIRING THE DESIGN, CONSTRUCTION OR RETROFITTING OF BUILDINGS, OTHER STRUCTURES AND MOVABLE PROPERTIES TO MEET MINIMUM STANDARDS OF A GREEN INFRASTRUCTURE, PROVIDING INCENTIVES THEREFOR AND FOR OTHER PURPOSES.**

*Introduced by Councilors BERNADETTE HERRERA-DY, FRANCISCO A. CALALAY, JR., DOROTHY A. DELARMENTE, VICTOR V. FERRER, JR. JOSEPH P. JUICO, RICARDO T. BELMONTE, JR., WINSTON "Winnie" T. CASTELO, RAMON P. MEDALLA, ALLAN BUTCH T. FRANCISCO, VOLTAIRE GODOFREDO L. LIBAN III, EDEN "Candy" A. MEDINA, AIKO S. MELENDEZ, JORGE B. BANAL, JR., FRANZ S. PUMAREN, WENCEROM BENEDICT C. LAGUMBAY, DANTE M. DE GUZMAN, DIORELLA MARIA G. SOTTO, JAIME F. BORRES, ANTONIO E. INTON, JR., JESUS MANUEL C. SUNTAY, JANET M. MALAYA, EDCEL B. LAGMAN, JR., VINCENT DG. BELMONTE, BAYANI V. HIPOL, CONCEPCION S. MALANGEN and ALEXIS GRACE R. MATIAS.*

*WHEREAS, the continuing development of real estates and land development projects must be mindful of the basic principles of conservation, environmental protection and planning patterns that consider the natural environment;*

*WHEREAS, the institutionalization of eco-friendly systems and technologies supports government efforts to reduce greenhouse gases and other hazardous emissions from buildings and other structures;*

*WHEREAS, the implementation of a green infrastructure policy emphasizes the need to promote and protect the interrelation of the natural ecosystem and development as these are key factors that contribute to sustainable development, empowerment of the people and urban development.*

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DRIG.

NOW, THEREFORE,

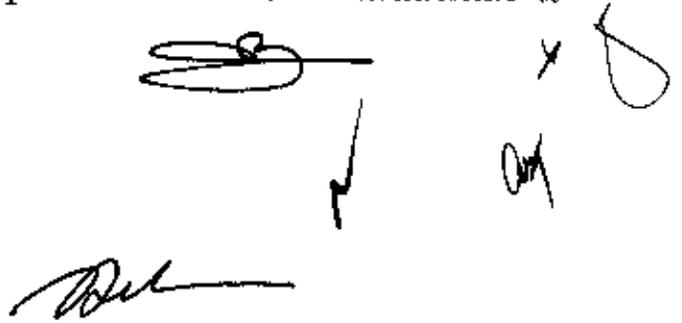
BE IT ORDAINED BY THE CITY COUNCIL OF QUEZON CITY  
IN REGULAR SESSION ASSEMBLED:

ARTICLE I  
GENERAL PROVISIONS

SECTION 1. SHORT TITLE. – This Ordinance shall be known  
and referred to as the “Green Building Ordinance of 2009”.

SECTION 2. DECLARATION OF POLICY. – It is the declared  
policy of the Quezon City Government to:

- 2.1 Establish and maintain building standard that require the planning, design, construction, operation and maintenance, including the retrofitting of building projects that strictly adhere to energy efficiency, cost effectiveness and mitigate impacts on environmental degradation;
- 2.2 Emphasize that land conservation, urban planning and development should include green infrastructure as a key planning framework in order to arrest the adverse impact of rapid growth on our environment and ecosystems;
- 2.3 Require the planning and integration of green spaces and installation of available and cost efficient technologies prior to any infrastructure development;
- 2.4 Require the installation, use, operation and maintenance of cost efficient technologies that use renewable energy or biofuels, compressed natural gas, liquefied petroleum gas or bio-ethanol blended gasoline, in the operation of motorized vehicles, whether public or private;
- 2.5 Create and maintain a network of green spaces and integrate them in the whole yamut of infrastructure projects and developments, being mindful of the strategic connection between structures, parks, riparian areas and other green spaces in order to maintain a healthy biodiversity;

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- 2.6 Increase the demand for environmentally preferable building materials, finishes, and furnishings;
- 2.7 Emphasize that the impact of greenhouse gas emissions does not recognize jurisdictions or boundaries, hence, must be the concern not only of government but of private, business and other stakeholders or sectors;
- 2.8 Provide measures for the protection of ground water on all vertical structures;
- 2.9 Provide incentives for land users, developers and planners who incorporate, implement, install and actually use environment friendly technologies that promote a strong biodiversity, improve the state of health of the population and abate the continuing destruction of our ecosystem, ground water and air quality.

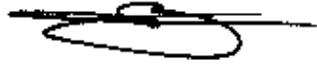
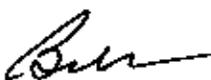
**SECTION 3. DEFINITIONS.** - Unless otherwise defined under this Ordinance, the following terms shall mean and be construed as:

- 3.1 **Building** - any structure built for the support, shelter or enclosure of persons, animals, chattels or property of any kind.
- 3.2 **Carbon Credits** - are emission allowances allocated or auctioned under a cap-and-trade program, or it can be utilized to offset emissions. Such offsetting and mitigating activities are authorized under the Kyoto Protocol. Under the Protocol, the amount of emissions reduced is evidence by a Certified Emission Reduction (CER).
- 3.3 **Direct Injection Retrofit Technology** - a technological alteration to an existing engine, replacing the carburetor with an in-cylinder fuel injector, providing for significant reduction in tailpipe smoke emissions, increasing fuel efficiency and economy.
- 3.4 **Dwelling Unit** - one or more habitable rooms which are occupied or which are intended or designated to be occupied by one family with facilities for living, sleeping, cooking and eating.

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- 3.5 *Effluent* - is a general term denoting any wastewater, partially or completely treated, or in its natural state, flowing out of a manufacturing plant, industrial plant or treatment plant.
- 3.6 *Green Building* - an integrated whole-building approach to the planning design, construction, operation and maintenance of buildings and their surrounding landscape that help mitigate the environmental, economic and social impacts of buildings on the following:
- 3.6.1 *Site conservation and sustainable planning;*
  - 3.6.2 *Water conservation and efficiency;*
  - 3.6.3 *Energy efficiency and renewable energy;*
  - 3.6.4 *Conservation of materials and resources, and;*
  - 3.6.5 *Indoor environmental quality and human health.*
- 3.7 *Sewage Treatment Plant (STP)* - process of removing contaminants from wastewater and household sewage, both runoff (effluents) and domestic. It includes physical, chemical and biological processes to remove physical, chemical and biological contaminants.
- 3.8 *Wastewater Treatment Facility* - Any plant or facility owned or maintained by any department, agency or authority of the state, or by any sewer company, private corporation, association, person or group of persons, or by any industry or institution, except domiciles or residential units, which subjects wastewater to a process for removing or altering the objectionable constituents of wastewater for the purpose of meeting the requirements of Clean Water Act of 2004 (Republic Act No. 9275) to make it less offensive or dangerous.

**ARTICLE II  
GREEN INFRASTRUCTURE**

**SECTION 4. APPLICATION** – All vertical structures, whether or not used for commercial, industrial, institutional or residential use are hereby mandated to apply and implement the policies provided under this Ordinance, including the provision for mechanisms that shall reduce greenhouse gas emissions, including wastewater treatment. Implementors of this Ordinance shall benefit from the Green Building Tax Credit provided for under Article IV, Section 14 hereof.

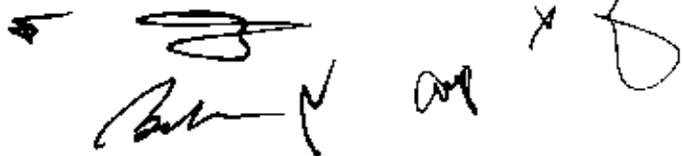
A system of inspection, evaluation and certification shall be devised and implemented by the Environmental Protection and Waste Management Department, City Planning and Development Office and the Building Official for this purpose.

**SECTION 5. PRELIMINARY CERTIFICATION** – In the case of proposed and new structures, an applicant must:

- 5.1 Apply with the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department for preliminary certification if the applicant will be the owner or contract purchaser of the facility at the time of construction, in writing on a form prepared and provided for and shall contain:
  - 5.1.1 A statement that the applicant plans to construct a facility that meets the requirements under this Section;
  - 5.1.2 A detailed description of the proposed facility and its operation and information showing that the facility will operate as represented in the application;
  - 5.1.3 The estimated start and finish date of the construction of the facility; and
  - 5.1.4 Any other information determined by the Building Official, CPDO and the EPWMD to be necessary prior to issuance of an initial certificate.

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- 5.2 The Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department may allow an applicant to file the preliminary application after the start of the construction of the facility if the Building Official finds that filing the application before the start of construction is inappropriate because special circumstances render filing earlier unreasonable.
- 5.3 If the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department determine that the proposed construction is technically feasible and should operate in accordance with the representations made by the applicant, and is in accordance with the provisions under Section 9 and any applicable rules or standards adopted by the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department, the Building Official together with the City Planning and Development Office and the Environmental Protection and Waste Management Department shall issue, addressed to the City Treasurer and the City Assessor, a certification recommending approval for the issuance of the Preliminary Credit Certificate for the proposed construction. The Preliminary Credit Certificate shall state the following:
- 5.3.1 The first taxable year for which the credit may be applied;
- 5.3.2 The expiration date of the tax credit. Such expiration date may be extended at the discretion of the City Treasurer in order to avoid unwarranted hardship; and
- 5.3.3 The maximum amount of the total credit allowed and the maximum amount of credit allowed in any single taxable year.
- 5.4 If the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department determine that the construction does not comply with the provisions under Section 9 and applicable rules and standards, the Building Official shall issue an order denying certification.

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**SECTION 6. CHANGES BETWEEN PRELIMINARY CERTIFICATION AND FINAL CERTIFICATION.**

6.1 To change a project that has already received preliminary certification, the applicant shall file a written request to the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department which states:

6.1.1 A detailed description of the changes;

6.1.2 The reasons for the changes; and

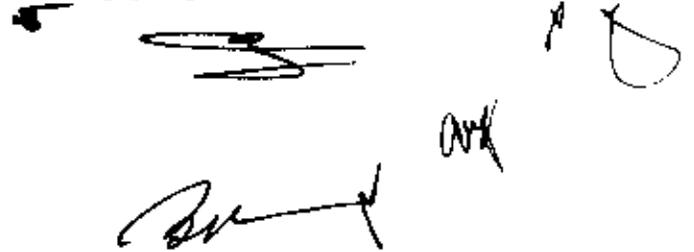
6.1.3 The effects that the changes will have on the amount of tax credit stated by the preliminary certification.

6.2 The Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department must determine and decide if the changed project complies with the requirements under Section 9:

6.2.1 If the changed project complies with the requirements under Section 9, then the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department shall issue an amended preliminary certification.

6.2.2 If the changed project does not comply with the requirements under Section 9 then the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department shall issue orders that revoke the preliminary certification.

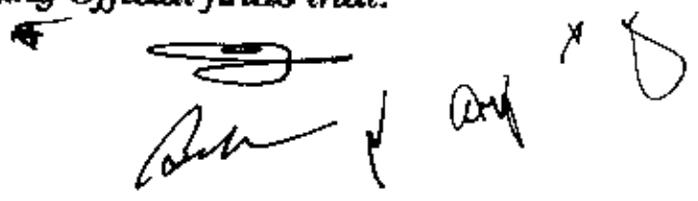
**SECTION 7. FINAL CERTIFICATION.** Upon completion of the proposed construction or retrofitting project:

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- 7.1 No final certification shall be issued by the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department under this Section unless the facility was constructed under a preliminary certificate of approval issued under Section 5.
- 7.2 An applicant may apply with the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department for final certification of a facility:
- 7.3 If the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department issued a preliminary certification for the facility under Section 5; and
- 7.4 After completion of construction of the proposed facility.

An application for final certification shall be made in writing on a form prepared by the Departments and shall contain: (1) A statement that the conditions of the preliminary certification have been complied with; (2) An eligibility certificate from a licensed project architect or engineer licensed that consists of: (a) A certification by the Building Official, City Planning and Development Office and the Environmental Protection and Waste Management Department that the building, with respect to which the credit is claimed, is compliant with the provisions of this Ordinance; (b) A statement of the degree of compliance achieved by the building, to permit determination of the proper credit amount under Section 14; (3) A statement that the facility is in operation; and (4) Any other information determined by the Building Official to be necessary prior to issuance of a final certificate, including inspection of the facility by the Departments of Engineering and Environmental Protection and Waste Management Department and the City Planning and Development Office.

**SECTION 8. REVOCATION OF CERTIFICATE.** - The Building Official may order the revocation of the final certificate issued under Section 7 of this Ordinance upon the recommendation of the Environmental Protection and Waste Management Department and the City Planning and Development Office, if the Building Official finds that:

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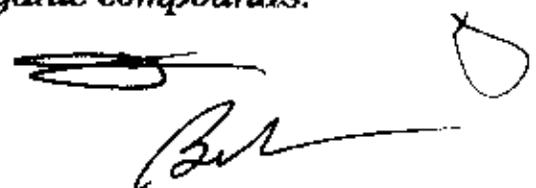
- 8.1 The certification was obtained by fraud or misrepresentation; or
- 8.2 The holder of the certificate has substantially failed to construct or complete the facility in compliance with the plans, specification, and procedures in such certificate. As soon as the order of revocation under this Section becomes final, the Building Official shall notify the City Treasurer and the City Assessor of such order.

If the certificate is ordered revoked pursuant to item Number 8.1 of this Section, all prior tax credits provided to the holder of the certificate by virtue of such certificate shall be forfeited, and upon notification under this Section, the City Treasurer shall immediately proceed to collect those taxes not paid by the certificate holder as a result of the tax credits provided to the holder under this Ordinance.

If the certificate is ordered revoked pursuant to item Number 8.2 of this Section, the certificate holder shall be denied any tax credit under this Ordinance in connection with such facility after the date that the order of revocation becomes final. Thereafter, all taxes shall become due and demandable in favor of the government.

**SECTION 9. REQUIREMENTS.** - The design, construction, operation, maintenance, renovation, and deconstruction of all major facilities or structures, whether private or government-owned, that enter into the pre-design phase after the date of enactment of this Ordinance, and the site of all such facilities or structures, shall conform to, or exceed, the evaluation and rating scheme of the Green Building Rating System, to be devised and implemented by the Departments of Environmental Protection and Waste Management Department, Engineering, Building Official and the City Planning and Development Office for a new building and for major renovations. All existing buildings shall also be certified through the same certification process.

The criteria for evaluation and rating shall cover the following: use of renewable building materials, installation and use of insulation and energy reduction and efficiency mechanisms, solid waste and waste water treatment schemes, incorporation of green architecture, and reduction systems for greenhouse gases and other volatile organic compounds.



The process of certification shall begin from the initial preparation and planning phase and throughout the lifespan of the facility or structure.

**SECTION 10. EXEMPTIONS.** - The requirements of the provisions of this Ordinance may be waived in favor of properties, facilities or structures, under the following terms and conditions:

- 10.1 The Building Official may exempt any building from compliance with the mandates under Article II of this Ordinance if it is deemed that the cost of compliance sufficiently exceeds the building's life-cycle cost savings.
- 10.2 Any building under the mandate of Article II that is given exemption by the Building Official must comply with the Green Building Evaluation and Rating System to the maximum extent possible such that the cost of compliance does not sufficiently exceed the building's life-cycle cost savings.

### ARTICLE III SEWAGE TREATMENT PLANT

**SECTION 11. INSTALLATION OF SEWAGE TREATMENT PLANT.** - All Subdivisions, Government and Privately Owned Buildings or Structures are hereby required to install, maintain and operate a Sewage Treatment Plant and shall be incorporated in the building plans as well as in the construction of buildings or structures within the territorial jurisdiction of Quezon City.

**SECTION 12. COMPUTATION FOR EFFLUENT DISCHARGE.**  
- The following shall be the basis of computation for effluent discharge:

- 12.1 Basic consideration in the implementation of this Article shall be Effluent Discharge of more than thirty cubic meters (30 cu.m.) per day, in accordance with Section 5, note 4 of the Department of Environment and Natural Resources Administrative Order No 35, Series of 1990.



12.2 Effluent discharge shall be computed based on the following table:

Type of Occupancy	Water Consumption	Parameter	
		Occupancy	% of Water Discharge
Residential	300 L/person/day	5 pax/household	80%
Hotels/Apartelles/Lodging Houses	200 L/person/day	2 pax/room	80%
Hospitals	165 L/bed/day		80%
Schools	60 L/student/day		80%
Malls	8-12 L/sqm/day		80%
Office Buildings	100 L/person/day	41 pax/7 sqm	80%
IT Buildings	100 L/person/day	1 pax/5 sqm	80%
Industrial Buildings	Automatic STP compliance		

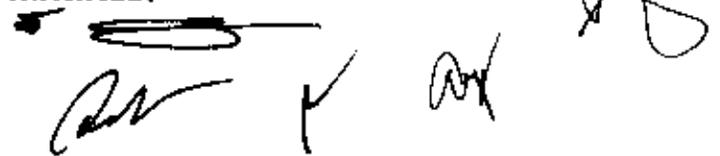
12.3 At least forty percent (40%) of the total floor area shall be allocated for effluent discharge.

**SECTION 13. GUIDELINES OF IMPLEMENTATION.** – The following shall be the guidelines of implementation for this Article:

13.1 All new buildings or structures with commercial value and with effluent discharge of more than thirty (30) cubic meter per day as computed using the parameters set forth under Sections 11 and 12 of this Ordinance shall be required to install, maintain and operate a Sewage Treatment Plant.

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- 13.2 All new subdivisions with effluent discharge of more than thirty (30) cubic meters per day as computed using the parameters set forth under Sections 11 and 12 of this Ordinance shall be required to install, maintain and operate a Sewage Treatment Plant. Thirty (30) cubic meters equates to twenty (20) residential houses thus, for every twenty (20) residential houses thereof, one (1) STP shall be provided.
- 13.3 All old buildings or structures with commercial value and with effluent discharge of more than thirty (30) cubic meters per day as computed using the parameters set forth under Section 12 shall be required to install, maintain and operate a Sewage Treatment Plant within a period of three (3) years after the approval of this Ordinance.
- 13.4 All old subdivisions with effluent discharge of more than thirty (30) cubic meters per day as computed using the parameters set forth under Section 12 shall be required to install, maintain and operate a Sewage Treatment Plant, however, the water utility companies shall be directed to institute the necessary measures and shall be given three (3) years to comply after the approval of this Ordinance.
- 13.5 All new government owned buildings or structures with effluent discharge of more than thirty (30) cubic meters shall be required to install, maintain and operate STP.
- 13.6 All old government owned buildings or structures with effluent discharge of more than thirty (30) cubic meters a day shall be required to install, maintain and operate STP, is given a period of three (3) years to comply with the provisions of this Ordinance.
- 13.7 All other residential houses outside of subdivisions, government and privately owned buildings/structures with commercial value but more than thirty (30) cubic meters effluent discharge shall be required to install, maintain and operate STP, however, the water utility companies is hereby mandated to institute the necessary measures and shall be given three (3) years to comply with this Ordinance.

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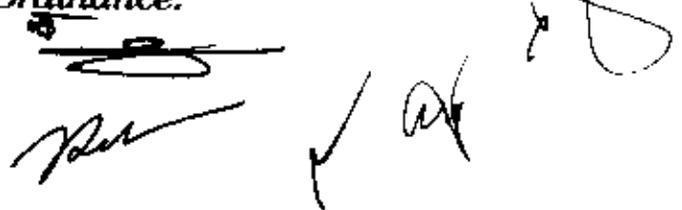
- 13.8 All new industrial buildings/structures regardless of volume of effluent discharge shall be required to install, maintain and operate a Sewage Treatment Plant.
- 13.9 All old industrial buildings regardless of effluent discharge shall be required to install, maintain and operate a Sewage Treatment Plant.
- 13.10 All markets regardless of effluent discharge shall be required to install, maintain and operate a Sewage Treatment Plant.

#### ARTICLE IV GREEN VEHICLES

**SECTION 14. APPLICATION.** – Tricycles for hire and public utility vehicles which are registered, owned and operated by residents or organizations located and based in Quezon City and who hold and own franchises from the Saangguniang Panlungsod or other government franchising agencies, including vehicles owned and operated by the city government, are given a non-extendible period of three (3) years within which to retrofit from consuming or burning fossil fuel or petroleum products to Direct Injection Retrofit Technology or other fuel efficient technologies: Provided, these technologies pass the minimum standards set by the Bureau of Product Standards of the Department of Trade and Industry: Provided, further, that these products must at least meet or surpass the standard 7,800 parts per million hydrocarbon emission level prescribed by the Environmental Management Bureau of the Department of Environment and Natural Resources.

**SECTION 15. PREFERRED FUEL.** – It is a declared policy of the city government that the preferred fuel of use shall either be Compressed Natural Gas (CNG), Liquefied Petroleum Gas (LPG), bio-ethanol blended gasoline or other forms of biofuels.

**SECTION 16. ADMINISTRATIVE AND PENAL PROVISIONS.**  
– The provisions of this Article shall be strictly applicable to all public conveyances, including tricycles for hire and shall suffer the penalty of decommissioning and revocation of their respective franchises. Revoked franchises, however, may be applied for and replaced with newer or other tricycle units who are able to comply with the provisions of this Ordinance.

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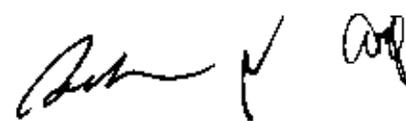
The Tricycle Regulatory Unit is hereby directed to implement an orderly and staggered scheme of implementation for compliance by all tricycle franchisees: Provided, that it does not exceed the period prescribed under this Article. The Tricycle Regulatory Unit shall issue a Certificate of Compliance prior to the renewal of its franchise-license and registration with the Land Transportation Office.

In the case of city government owned vehicles, the City General Services Office is hereby directed to install, retrofit and utilize Direct Injection Retrofit Technology. It shall devise and implement an orderly and staggered scheme of implementation. The amount necessary for the implementation hereof shall be proposed and submitted by the City General Services Office to the Local Finance Committee and must be included in the Annual Appropriations Ordinance of the city government within the years prescribed for compliance under this Ordinance. All other vehicles incapable of complying with the provisions of this Ordinance must be decommissioned forthwith and disposed of in accordance with existing laws, rules and regulations on the disposal of movable properties.

#### ARTICLE IV GREEN BUILDING CREDIT

**SECTION 17. GREEN BUILDING TAX CREDIT.** - The Green Building Tax Credit is hereby made available to a taxpayer for either the construction of a green building or the rehabilitation or retrofitting of a building, which is not a green building, into a green building, subject to the following terms and conditions:

- 17.1 A taxpayer may apply for a Green Building Tax Credit provided that the facility subject to the Green Building Tax Credit is within the territorial jurisdiction of Quezon City and the applicant is the actual and lawful owner or contract purchaser of the facility at the time of erection, construction, installation, or acquisition of the proposed facility.

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- 17.2 If a credit is allowed to a building owner pursuant to this Section with respect to the property, and such property or an interest therein is sold, the credit for the period after the sale, which would have been allowable under this Section to the prior owner, shall be allowable to the new owner. Credit for the year of sale shall be allocated between the parties on the basis of the number of days during such year that the property or interest was held by each.
- 17.3 If a credit is allowed to a tenant pursuant to this Section with respect to the property, and if such tenancy is terminated but such property remains in use in the building by a successor tenant, the credit for the period after such termination, which would have been allowable under this Section to the prior tenant, shall be allowable to the successor tenant. Credit for the year of termination shall be allocated between the parties on the basis of the number of days during such year that the property was used by each.
- 17.4 Notwithstanding any other provision of law to the contrary, in the case of allowance of credit under this Section to a successor owner or tenant, as provided under item number 17.1 or 17.2 of this Section, the City Treasurer and the City Assessor is hereby authorized to reveal to the successor owner or tenant any information, with respect to the credit of the prior owner or tenant, which is the basis for the denial in whole or in part of the credit claimed by such successor owner or tenant.

**SECTION 18. CREDIT COMPONENTS.** - A Tax Credit incentive is hereby established to encourage the construction, retrofitting and maintenance of Green Infrastructures under the following schemes:

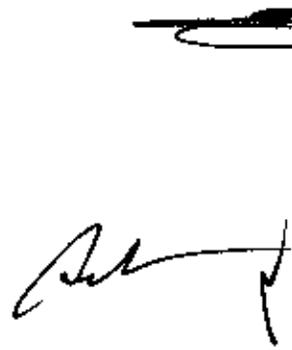
- 18.1 **Green Building Tax Credit.** A taxpayer is eligible for a Green Building Tax Credit against a tax due: Provided, that they comply with the requirements of Section 6 and: Provided, further, that the building owned or occupied meet the requirements of an eligible building as set forth in Section 9. The amount of the credit shall be determined pursuant to Section 17.



The credit shall be the sum of the following credit components, whichever are applicable:

18.1.1 Green Whole-Building Credit Component - The green whole-building credit component shall be available to a taxpayer (whether owner or tenant) for either the construction of a green building or the rehabilitation of a building, which is not a green whole building, into a green whole building. The green whole-building credit component may not be allowed for any taxable year unless all the requirements under Section 9 are met, and the whole building is certified by the Environmental Protection and Waste Management Department, City Planning and Development Office and the Building Official: Provided, however, that in no case shall the credit be more than twenty-five percent (25%) of the total amount of Real Property Tax due for the same taxable year, under the provisions of Ordinance No. SP-91, S-1993, as amended.

18.1.2 Green Base Building Credit Component - The green base building credit component shall be available to a taxpayer who is the owner for either the construction of a green building or the rehabilitation of a building, which is not a green base building, into a green base building. The green base building credit component may not be allowed for any taxable year unless all the requirements under Section 9 are met, and the base building is certified by the Environmental Protection and Waste Management Department, City Planning and Development Office and the Building Official: Provided, however, that in no case shall the credit be more than twenty percent (20%) of the total amount of Real Property Tax due for the same taxable year, under the provisions of Ordinance No. SP-91, S-1993, as amended.

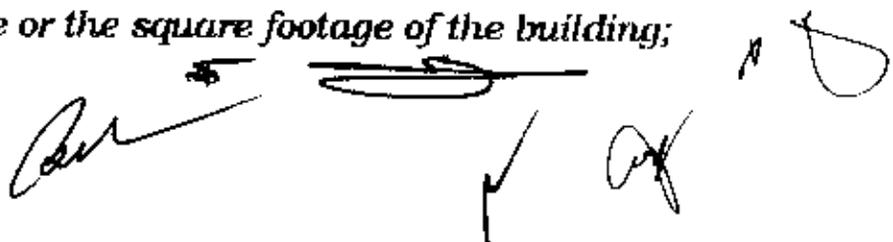
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18.1.3 Green Tenant Space Credit Component - The green tenant space credit component shall be available to a taxpayer (whether owner or tenant) for constructing tenant space or rehabilitating tenant space, which is not green tenant space, into green tenant space. The green tenant space credit component may not be allowed for any taxable year unless all the requirements under Section 9 are met, and the tenant space is certified by the Environmental Protection and Waste Management Department, City Planning and Development Office and the Building Official: Provided, however, that in no case shall the credit be more than fifteen percent (15%) of the total amount of Real Property Tax due for the same taxable year, under the provisions of Ordinance No. SP-91, S-1993, as amended.

18.2 For each component eligible to receive credit, such credit component amount shall not exceed the maximum amount specified in the preliminary certificate issued pursuant to Section 5: Provided, that the credit may be availed of only once within the Five (5) years duration within which to avail of the credit provided for under this Ordinance. Provided, finally, that once the Green Building Tax Credit has been availed of, it shall remain in full force and effect until the completion and full occupancy of the facility or structure, unless sooner recommended for revocation by the Building Official.

**SECTION 19. RESTRICTIONS.** - The Green Building Tax Credit may not be allowed for any taxable year unless all of the following are met:

19.1 The whole building, base building, or tenant space has achieved the desired rating under minimum standards, rules and regulations, to be prescribed by the Environmental Protection and Waste Management Department, the City Planning and Development Office and the Building Official: Provided, however, that rating standards to be used in the grant of the Green Building Tax Credit shall not be limited to the amount of floor space or the square footage of the building;

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19.2 The taxpayer has obtained and filed a preliminary credit certificate issued pursuant to Section 5 of this Ordinance;

19.2.1 The building is actually in service, as shown by a Certificate of Occupancy;

19.2.2 For each component eligible to receive credit in Section 17, once construction is complete and an occupancy certificate is received, such credit component amount shall be allowed only for a non-extendible period of three (3) succeeding taxable years provided that the taxpayer obtains an eligibility certificate that meets all requirements for an eligibility certificate as described in Section 7; and

19.2.3 The taxpayer shall file the eligibility certificate and the preliminary credit component certificate, with the claim for credit. Allowable costs under this Section and for the number of years that the credit is made available shall not exceed, in the aggregate, the amount determined pursuant to Section 17.

**SECTION 20. TAX DISCOUNT.** – A system of tax discount shall be devised for compliance based on the following criteria:

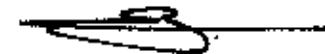
20.1 Use of renewable energy;

20.2 Use of energy efficient technology;

20.3 Provision of open spaces; and

20.4 Use of environment-friendly materials.

**SECTION 21. EVALUATION COMMITTEE.** – An Evaluation Committee is hereby created to devise a system and guidelines for the grant of tax discount for having complied with the criteria set under Section 19 hereof. The Committee shall be tasked to evaluate and recommend tax discount for consideration of the Sangguniang Panlungsod. The Evaluation Committee shall be composed of the following:


- 21.1 City Treasurer
- 21.2 City Assessor
- 21.3 Head, Environmental Protection and Waste Management Department
- 21.4 City Building Official
- 21.5 City Planning and Development Office
- 21.6 United Architects of the Philippines-Quezon City Chapter
- 217 Three (3) Non Government Organizations in the field of environment.

**ARTICLE V  
FINAL PROVISIONS**

**SECTION 22. CARBON CREDITS.** - To access Carbon Credits, within Five (5) years from the approval and implementation of the provisions of this Ordinance, the city government is hereby authorized to negotiate, enter into, undertake, implement or establish, whether singly or under joint venture agreements, with reputable domestic or international organizations, greenhouse reduction projects.

Commercial, industrial and large-scale emitters or consumers shall be allotted carbon credits which they may undertake or offer for sale or acquisition, their unused allowances: Provided, however, that emitters who are about to exceed their quotas, may acquire or buy third-party surplus quotas, in a public document. Provided: further, in case demand for energy grows over time, the total emissions shall stay within the cap.

The emissions cap provided under this Section shall be jointly determined, provided for and implemented by the Environmental Protection and Waste Management Department and the City Planning and Development Office. The emission cap shall provide industries or stakeholders reasonable degree of flexibility and predictability in its planning to accommodate their energy requirements.









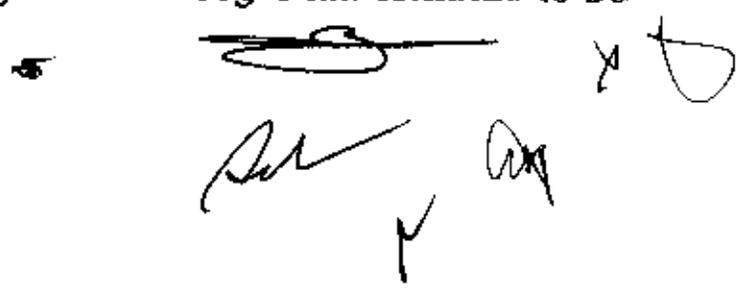
The city government is also authorized to participate and negotiate with countries or international organizations dealing in the International Emissions Trading (IET) of accumulated carbon credits to cover for surpluses or shortfalls in allowances, pursuant to the provisions of the Kyoto Protocol.

**SECTION 23. APPLICABILITY OF EXISTING MINIMUM STANDARDS.** - The minimum standards provided under Republic Act Nos. 8749 (Clean Air Act of 1999) and 9275 (Clean Water Act of 2004) and other legal issuances, administrative directives or orders, policies, implementing rules and regulations issued by the Environmental Management Bureau, Department of Environment and Natural Resources shall serve as the basis for the implementation of the policies and directives under this Ordinance especially on the treatment, handling, disposal and reduction of waste water and solid waste, whether of domestic, bulk or commercial volume.

**SECTION 24. IMPLEMENTING RULES AND REGULATIONS.** -The Heads of the Environmental Protection and Waste Management Department, Engineering, the City Planning and Development Officer, the City Treasurer and Assessor or their authorized deputies are given a non-extendible period of Sixty (60) calendar days within which to draft and issue the Rules and Regulations Implementing the provisions of this Ordinance.

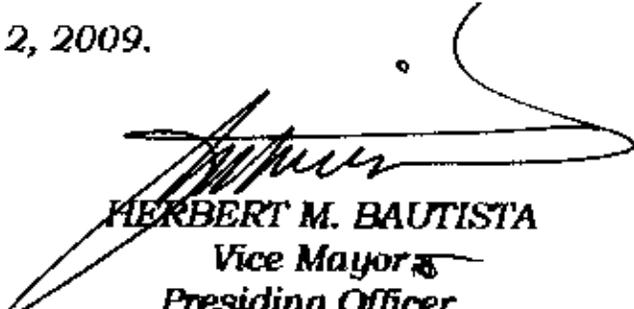
**SECTION 25. AMENDATORY AND REPEALING CLAUSE.** - All other Ordinances, Resolutions, Orders, Rules and Regulations inconsistent with the provisions of this Ordinance are hereby considered amended, rescinded or repealed accordingly.

**SECTION 26. SEPARABILITY CLAUSE.** - If, for any reason or reasons, any provision of this Ordinance is declared invalid or unconstitutional by a court of competent jurisdiction, the remaining parts thereof not affected thereby shall continue to be in full force and effect.

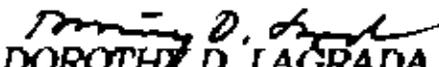
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**SECTION 27. EFFECTIVITY CLAUSE.** This Ordinance shall take effect Fifteen (15) days following its complete publication in a newspaper of general circulation.

ENACTED: February 2, 2009.

  
HERBERT M. BAUTISTA  
Vice Mayor &  
Presiding Officer

ATTESTED:

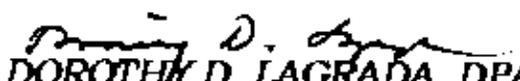
  
DOROTHY D. LAGRADA, DPA  
City Secretary

APPROVED: April 2, 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 January 26, 2009, and was reverted back for Second Reading on February 2, 2009 and was finally PASSED on Third/Final Reading on the same date.

  
DOROTHY D. LAGRADA, DPA  
City Secretary



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

PO2010-13

50<sup>th</sup> Regular Session

ORDINANCE NO. SP- **2140**, S-2012

**AN ORDINANCE REGULATING THE USE OF PLASTIC BAGS AND ESTABLISHING AN ENVIRONMENTAL FEE FOR ITS USE, PROVIDING MECHANISM FOR ITS RECOVERY AND RECYCLING AND PROVIDING PENALTIES FOR VIOLATION THEREOF.**

*Introduced by Councilor DOROTHY A. DELARMENTE.*

*Co-Introduced by Councilors Francisco A. Calalay, Jr., Anthony Peter D. Crisolago, Ricardo T. Belmonte, Jr., Joseph P. Juico, Alexis R. Herrera, Precious Hipolito Castelo, Alfredo D. Vargas III, Eden "Candy" A. Medina, Julienne Alyson Rae V. Medalla, Roderick M. Paulate, Godofredo T. Liban II, Julian ML. Coseteng, Allan Benedict S. Reyes, Jaime F. Borres, Jose Mario Don S. De Leon, Gian Carlo G. Sotto, Eufemio C. Lagumbay, Edcel B. Lagman, Jr., Jesus Manuel C. Suntay, Jessica Castelo Daza, Raquel S. Malatigen, Vincent DG. Belmonte, Marvin C. Rillo, Ranulfo Z. Ludovica and John Ansell R. De Guzman.*

*WHEREAS, it is the duty of the City to protect the natural environment, the economy and health of its citizens;*

*WHEREAS, the Waste Analysis and Characterization Study (WACS) conducted by the Quezon City - Environmental Protection and Waste Management Department (EPWMD) revealed the following information: x*

*[Handwritten signatures and initials]*

- (1) Waste Intake at Payatas Disposal Facility : 1,259 tons/day or 1,259,000 kgs/day
- (2) % and weight of assorted plastic materials in the waste stream: 21% or 264,390 kgs./day
- (3) % and weight of plastic bags in the waste stream : 12% or 151,080 kgs./day
- (4) Density of waste : 210 kgs/ cu.m
- (5) Volume of plastic bags in the waste stream: 719 cu.m./day or 45 10-wheeler truckload

WHEREAS, based on the WACS conducted, plastic bags contribute largely to the volume of City solid wastes being disposed of daily and may become a nuisance to the environment for a long time when not recovered, reused and recycled;

WHEREAS, the expansive usage of single-use plastic bags and their typical disposal also creates significant litter problems in the city and sometimes clogs up canals and sewerage systems that cause floods;

WHEREAS, the free distribution of single-use plastic bags in stores effects a throw-away attitude among its users; y

*[Handwritten signatures and initials]*

WHEREAS, to address the throw-away attitude among its users and recover as much plastic bags from the waste stream, it is deemed necessary to implement an effective system of plastic bag recovery;

WHEREAS, the best way to implement such regulation is to seek the participation and commitment of the business sector and the citizens as well in protecting the natural environment;

WHEREAS, it is also the duty of the business sector to initiate, participate and invest in integrated ecological solid waste management projects, to manufacture environment-friendly products, to introduce, develop and adopt innovative processes that shall recycle and re-use materials, conserve raw materials and energy, reduce waste and prevent pollution, and to undertake community activities, promote and propagate effective solid waste management practices, as provided in Section 57 of Republic Act No. 9003 or the Ecological Solid Waste Management Act;

WHEREAS, it is the best interest of the health, safety and welfare of the people that regulation include the imposition of an environmental fee to: (1) address the mindless consumption of single-use plastic bags; (2) minimize the use of plastic bags; (3) mainstream the use of reusable bags; and (4) invite the active participation of the citizenry in practices that promote a clean and sustainable environment.

NOW, THEREFORE,

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

SECTION 1. Short Title: This Ordinance shall be entitled "Plastic Bag Reduction Ordinance".

SECTION 2. Definition of Terms: For the purpose of this Ordinance, the following definitions are hereby established, to wit:

a) "City" - the Quezon City Local Government Unit.

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- b) "Department" - the Environmental Protection and Waste Management Department (EPWMD).
  - c) "Plastic Recovery System Fee" - a charge or regulatory fee imposed to consumer on the use of new plastic bag/s at the point of sale in the absence of alternative reusable bags and/or redemption of used plastic bags.
  - d) "Green Fund" - a fund or money earned from the imposition of plastic recovery system fee by the retail stores intended to fund various initiatives that would benefit the environment.
  - e) "HDPE" - High Density Polyethylene plastic or type-2 plastic material. (source: ppia technical briefing on plastics)
  - f) "LDPE and LLDPE" - Low Density Polyethylene and Linear Low Density Polyethylene plastic or type-4 plastic material. (source: ppia technical briefing on plastics)
  - g) "Plastic Bags" - plastic carryout bags with handles, holes or string usually made from HDPE, LDPE/LLDPE and PP plastic material, or any other type of recyclable plastic materials with thickness not lower than 15 microns.
  - h) "PP" - Polypropylene plastic or type-5 plastic material. (source: ppia technical briefing on plastics)
  - i) "Recyclable" - a material that can be sorted, cleansed, and reconstituted for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating, converting, or otherwise, thermally destroying solid waste.
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- j) **"Relevant Recyclers"** - an individual or business entity duly registered and engaged in the trading of junk materials for the purpose of recycling said materials into new products.
- k) **"Relevant Retailers"**- establishments located within the geographical limits of Quezon City which are commonly and are regularly engaged in retail business and duly registered as one such as: Shopping Malls, Supermarkets, Department Stores, Grocery Stores, Fast Food Chains, Drugs Stores, Pharmacy and Wet & Dry Markets.
- l) **"Reusable bag"** - a carryout bag that is specifically designed and manufactured for multiple reuse and is either (1) made of cloth or other machine washable fabric, and/or (2) made of durable plastic and/or (3) made of indigenous material like buri, rattan etc.
- m) **"Used Plastic Bags"** - old or second-hand plastic carryout bags with handles, holes or string usually made from HDPE, LDPE/LLDPE and PP plastic material, or any other type of recyclable plastic materials.

**SECTION 3. Regulations on the use of Plastic Bags** - The following regulations shall be imposed on the use of plastic bags as carryout bag:

- (a) Distribution of plastic bags by **"Relevant Retailers"** lower than the regulated thickness of 15 microns is prohibited under this Ordinance. / S
- (Handwritten signatures and initials are present below the text)*

- (b) To ensure the recovery of plastic bags from the waste stream, consumers who will not bring with them "reusable bags" and/or redeem "used plastic bags" for a new plastic bag, shall be charged with an "plastic recovery system fee". Said fee shall be indicated in the customer's transaction receipt as a reminder that they can save money if they use reusable bags and/or if they bring used plastic bags in exchange for a new plastic bag.
- (c) Stall owners/lessees in wet and dry markets will not be allowed to directly distribute plastic bags provided in subsection 2(g). The market management shall assign areas within the market where these plastic bags may be purchased with corresponding transaction receipt.
- (d) Plastic bags with no handles, holes or strings commonly used for wrapping unpacked fresh foods and cooked foods at supermarkets, wet & dry markets, restaurants, canteen and the like shall not be included under the scheme as the usage of such plastic bag is justified on the grounds of public hygiene.

**SECTION 4. "Plastic Recovery System Fee" for plastic bag -**  
All stores as defined in subsection 2(k) shall charge and collect with a fix amount of two pesos (P2.00) per plastic bag regardless of its size.

**SECTION 5. Purpose of the "Plastic Recovery System Fee" -**  
Primarily, the imposition of "plastic recovery system fee" seeks to change consumer behavior rather than generate fund. It is a move towards shifting habits from mindless consumption to a lifestyle that is anchored on the 3 R's of Waste Management, namely, reduce, reuse and recycle. X

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The "Plastic Recovery System Fee" also seeks to regulate the generation of waste from plastic bags by creating an economic option for consumers to use reusable carry bags and/or redeem used plastic bags for new plastic bags.

The imposition of "Plastic Recovery System Fee" will remind consumers that bringing their own carryout bags and/or redeeming used plastic bags will not only save money but will also save precious resources by recovering and recycling plastic bags.

Further, this "Plastic Recovery System Fee" shall be earmarked for a "green fund" that shall be maintained by the stores to fund other initiatives that would benefit the environment.

**SECTION 6. "Reusable Bags" as carryout bags** - All stores may provide the following reusable bags as carryout bags to be purchased by the consumer for a minimum fee. It will be made available in the respective checkout counters of the stores, purposely for multiple reuse and to reduce the use of plastic bags as carryout bag. Appropriate sizes and design may be provided for the purpose:

- (a) "Reusable Shopping Bag" - Reusable bag to be used for shopping and buying groceries. Applicable for shopping malls, supermarkets and grocery stores.
  - (b) "Take-out Bag" - reusable bag to be used for carrying food and drinks for two or more persons, applicable for fast food chains.
  - (c) "Agora Bag" - reusable bag to be used in carrying goods from wet and dry markets such as meat, fish, vegetables, fruits and other goods. The market management may assign an area within the market where this bag can be purchased.
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b) **Waste Markets** – The stores may also bring their accumulated used plastic bags to the waste markets provided by the Department. The schedule of the Waste Markets are as follows:

**SM Supermalls:** SM North EDSA, SM Fairview,  
SM Sta. Mesa, SM Novaliches,  
Every 1<sup>st</sup> Friday and Saturday of  
the month

**Trinoma Mall:** Every 4<sup>th</sup> Friday of the month

All stores and shopping malls are likewise directed to implement their own Waste Markets in their respective areas to ensure that there will be enough venues where used plastic bags as well as other recyclable materials may be redeemed. The Department may also designate additional venue for the waste market or may alter existing schedules for advancement purposes.

**SECTION 9. Implementation** - Upon effectivity of this ordinance and after public hearing, the Environmental Protection and Waste Management Department (EPWMD), Business Permits and Licensing Office (BPLO), Market Development and Administration Department (MDAD), Barangay Operation Center (BOC) and the Liga ng mga Barangay, are hereby directed to draft and implement the Implementing Rules and Regulations (IRR) of this Ordinance. It may also adopt and amend guidelines, rules and regulations and forms to implement this Ordinance.

To ensure that the provisions of this Ordinance is strictly monitored and implemented, a Task Force composed of agencies abovementioned with EPWMD as the lead agency, shall also be created. Funding for the operation of the Task Force shall be taken from the General Fund of the City Government. )

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**SECTION 10. Enforcement and Penalties.**

a) Any establishment that violates the provisions of this Ordinance shall be charged of an infraction and shall be penalized by:

a.1) 1<sup>st</sup> Offense: A fine not exceeding P1,000.00

a.2) 2<sup>nd</sup> Offense: A fine not exceeding P3,000.00

a.3) 3<sup>rd</sup> Offense: A fine not exceeding  
P5,000.00 and cancellation  
of Business Permit.

b) An Environmental Violation Receipt (EVR) shall be issued to the violator by the Department, after which, he/she shall proceed to the EPWMD Office within seven (7) working days for the issuance of the Order of Payment and make the necessary payment to the City Treasurer's Office. If an establishment fails to settle his/her liability within the given time, the case shall be referred to the City Legal Office for appropriate action.

**SECTION 11. 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 part which shall continue to be in force and effect.

**SECTION 12. 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 13. 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 modified accordingly. ✓

*[Handwritten signatures and initials]*

**SECTION 14. 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 newspaper of general circulation.

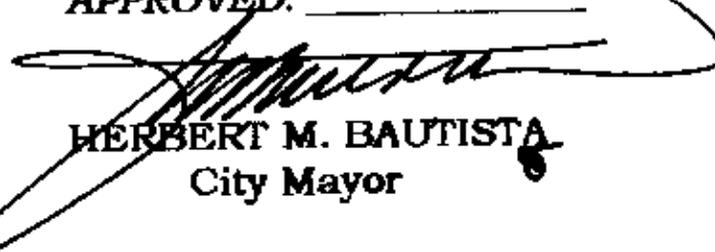
**ENACTED: February 20, 2012.**

  
**MA. JOSEFINA G. BELMONTE**  
Vice Mayor  
Presiding Officer

**ATTESTED:**

  
**Atty. JOHN THOMAS S. ALFEROS III**  
City Gov't Asst. Dept Head III

**APPROVED:** 24 APR 2012

  
**HERBERT M. BAUTISTA**  
City Mayor

**CERTIFICATION**

*This is to certify that this Ordinance was APPROVED by the City Council on Second Reading on February 20, 2012 and was PASSED on Third/Final Reading on February 27, 2012.*

  
**Atty. JOHN THOMAS S. ALFEROS III**  
City Gov't Asst. Dept Head III 



Republic of the Philippines  
**QUEZON CITY COUNCIL**  
Quezon City  
City Council

PR20CC-1135  
PR20CC-1216

87<sup>th</sup> Regular Session

RESOLUTION NO. SP- **7788**, S-2019

A RESOLUTION CONFIRMING AND ADOPTING THE QUEZON CITY  
TEN-YEAR SOLID WASTE MANAGEMENT PLAN UPDATE  
2015-2024.

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Introduced by Councilor *ELIZABETH A. DELARMENTE*.  
Co-Introduced by Councilors *Lena Marie P. Juico*,  
*Victor V. Ferrer, Jr.*, *Oliviere T. Belmonte*,  
*Alexis R. Herrera*, *Precious Hipolito Castelo*,  
*Voltaire Godofredo L. Liban III*, *Ramon P.*  
*Medalla*, *Ranulfo Z. Ludovica*, *Estrella C.*  
*Valmocina*, *Roderick M. Paulate*, *Allan*  
*Benedict S. Reyes*, *Gian Carlo G. Sotto*, *Kate*  
*Abigael G. Coseteng*, *Jose Mario Don S. De Leon*,  
*Franz S. Pumaren*, *Eufemio C. Lagumbay*,  
*Raquel S. Malañgen*, *Irene R. Belmonte*, *Ivy*  
*Xenia L. Lagman*, *Marra C. Suntay*, *Hero*  
*Clarence M. Bautista*, *Jose A. Visaya*, *Karl*  
*Edgar C. Castelo*, *Julienne Alyson Rae V.*  
*Medalla*, *Godofredo T. Liban II*, *Allan Butch T.*  
*Francisco*, *Marivic Co-Pilar*, *Melencio "Bobby" T.*  
*Castelo, Jr.*, *Rogelio "Roger" P. Juan*, *Diorella*  
*Maria G. Sotto*, *Donato C. Matias*, *Eric Z. Medina*  
and *Noe Lorenzo B. Dela Fuente III*.

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WHEREAS, Republic Act No. 9003, otherwise known as the  
"Ecological Solid Waste Management Act of 2000", was enacted to  
adopt a systematic, comprehensive and ecological solid waste  
management program;

WHEREAS, the said law mandates the creation of a City Solid  
Waste Management Board which shall have the responsibility to  
develop the City's Solid Waste Management Plan, among others;

*[Handwritten signatures]*

87<sup>th</sup> Regular Session

Res. No. SP- **7788**, S-2019  
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PR20CC-1210

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WHEREAS, the 6<sup>th</sup> Quezon City Council enacted City Ordinance No. SP-1512, Series of 2005, entitled "An Ordinance Creating the Quezon City Solid Waste Management Board", which was subsequently amended through City Ordinance No. SP-2387, Series of 2015 and reconstituted through Executive Order No. 11, Series of 2015 and Executive Order No. 11-A, Series of 2018;

WHEREAS, the City's 10-year SWM plan, created and developed by the Quezon City Solid Waste Management Board was approved by the National Solid Waste Management Commission (NSWMC) through Resolution No. 49, Series of 2010 entitled, "Resolution for the National Solid Waste Management Commission Members to Approve the 10-year Solid Waste Management (SWM) Plans of Local Government Units (LGUs) last October 22, 2010;

WHEREAS, there is a need to update the Ten-year SWM Plan to cope with the changing solid waste conditions of the City and to ensure the efficient and effective delivery of service to the City's constituents;

WHEREAS, the Quezon City Solid Waste Management Board has updated the 10-Year SWM plan of the City encompassing the years 2015-2024, which was subsequently approved through Quezon City Solid Management Board Resolution No. 2018-01 Series of 2018;

WHEREAS, the NSWMC, pursuant to Section 5 of Republic Act No. 9003 which empowers the NSWMC to approve local solid waste management plans, has approved the updated 10-Year SWM Plan of Quezon City through NSWMC Resolution No. 1074, Series of 2018 entitled "Resolution Approving the Ten Year Solid Waste Management Plan of Quezon City" which was adopted on August 28, 2018;

WHEREAS, the City Mayor, Honorable Herbert M. Bautista, as Chairperson of the Quezon City Solid Waste Management Board, formally submitted to the Quezon City Council the final version of the NSWMC-approved Quezon City 10-Year Plan 2015-2024 for confirmation and adoption by the City Council.

87<sup>th</sup> Regular Session

Res. No. SP- **7788**, S-2019  
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PR20CC-1216

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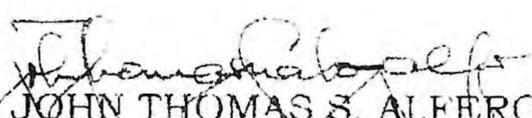
NOW, THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF QUEZON CITY  
IN REGULAR SESSION ASSEMBLED to confirm and adopt, as it  
does hereby confirm and adopt the Quezon City Ten-Year Solid  
Waste Management Plan Update 2015-2024.

ADOPTED: March 11, 2019.

  
MA. JOSEFINA G. BELMONTE  
City Vice Mayor  
Presiding Officer

ATTESTED:

  
Atty. JOHN THOMAS S. ALFEROS III  
City Government Dept. Head III

CERTIFICATION

This is to certify that this Resolution was APPROVED by the  
City Council on Second Reading on March 11, 2019 and was  
CONFIRMED under Suspended Rules on the same date.

  
Atty. JOHN THOMAS S. ALFEROS III  
City Government Dept. Head III

