EXECUTIVE SUMMARY

This Comprehensive Land Use Plan is one of the plans which the Local Government Code (RA 7160) directs all local government units to prepare. The city government of Quezon City has come up with this CLUP not only in compliance with the mandate of the Code. More importantly, the City needs this plan to succeed the CLUP 2000 which expired in 2010, in order to have a continuous guide to the management of planned urban growth and change.

Prepared through a process that involved multi-stakeholder participation and extensive consultation, this plan document contains 14 chapters. Each chapter is briefly described below.

Chapter 1 Development Framework situates the planning effort of Quezon City in the national and regional contexts, citing relevant portions of the National Framework for Physical Planning 2001-2030, the National Urban Development and Housing Framework 2009-2016 and Physical Development Framework Plan for Metro Manila 1996-2016. It cites as rationale for revision of CLUP the expiry of said plan in 2010, the significant changes in the land use pattern, and the need to mainstream parameters and considerations in disaster risk reduction and climate change adaptation.

Chapter 2 Land Use & Infrastructure Development Challenges enumerates land use and infrastructure development challenges based on analysis of the pattern of land use changes by comparing two aerial photographs taken in 2003 and 2009. Analysis focuses on changes in the residential, commercial, institutional, industrial and other major uses (heritage/historical and cultural sites) and the trends in the built environment, parks and open space land uses. Included in the land use and infrastructure development challenges facing Quezon City are the issues arising from observed land use changes and risks to natural hazards like floods, earthquakes, increased temperature impacts and human-caused hazard like fire as well as the assessment for each risk.

Chapter 3 The City's Vision & the National Planning Goals elaborates on the city's vision to be the knowledge industry capital and center of health and wellness of the country and the green lung for Metro Manila, as well as to remain a desirable habitat for residents and visitors alike.

Chapter 4 The Long-Term Spatial Strategy describes a long-term spatial strategy that will lead to the realization of the city's vision. It adopts the multiple growth centers' strategy in the predecessor plan which is most appropriate for the large size of Quezon City. However, the number of growth centers has been reduced from eight in the old plan to five.

Chapter 5 Growth Centers is devoted to detailed land use proposals for each of the five growth centers: the CBD-Knowledge Community district, the Cubao Growth Center, the NGC-Batasan Growth Center, the Novaliches-Lagro Growth Area, and the Balintawak-Muñoz Growth Center.

Chapter 6 The Non-Growth & Special Development Areas contains proposed policies dealing with the "non-growth centers" or the interstices between the growth centers. Non-growth centers consist of four categories: the mature stable areas which do not need any intervention during the plan period; the blighted areas where the property owners have not been investing in improving their structures collectively giving their premises a slum-look; the transitional areas characterized by lands with indeterminate tenure sta-

tus and substantial number of unutilized or abandoned lots; and special development areas requiring actions necessary to preserve or reclaim their unique and outstanding character.

Chapter 7 The Green Lung Network is devoted to the recovery and conservation of the network of open spaces which must be put under perpetual greenery and protected at all times in order to realize the vision of Quezon City as the "green lung" of Metro Manila.

Chapter 8 The Proposed Circulation Network establishes the circulation network that ties all the areas together and provides the skeletal framework for guiding the pattern and direction of the physical growth of the city. The proposed network links the city with other areas in the region as well as between areas with the city's borders.

Chapter 9 The Land Use Plan describes the demand for land resulting from increasing population and the capacity of the City to absorb the population growth. It likewise explains the allocation of land for various uses and the reasons for such allocation.

Chapter 10 Comprehensive Land Use Policy Framework consolidates all land use policies covering all growth centers and non-growth center areas and classifies these policies under the four policy areas of the National Framework for Physical Planning namely, settlements, production, protection infrastructures land uses.

Chapter 11 Implementing the Comprehensive Land Use Plan spells out the instruments needed to implement the CLUP such as a revised zoning ordinance, basic taxes and special levies on real property, land banking, public investment programming, guided private investments, and co-management arrangements between the city and relevant material government agencies with extensive land-holdings in the city.

1 DEVELOPMENT FRAMEWORK

This introductory chapter sets out the rationale for the current effort to revise the existing Comprehensive Land Use Plan of Quezon City. On the surface, the need for such a revision stems from the simple fact that the time frame of the current CLUP is expiring this year, 2010. The year 2010 also saw the change over of the city's leadership from the 3-term Belmonte Administration to the first term of Mayor Herbert M. Bautista. Although the new leadership does not represent a radical break from its predecessor, change is nonetheless inevitable and the Bautista Administration needs the revised plan to get a good grip of future growth and change.

In a more profound sense, the need for plan revision is dictated by developments and changing paradigms in the city's broader national and regional context. The planning and development of Quezon City must not proceed in isolation. It must consider the developments in the broader national and regional context of which the City is an integral part. The growth policies of the City shall likewise be guided by prevailing policies as embodied in higher level plans.

For this purpose, the relevant provisions of selected national and regional plans, namely, the National Framework for Physical Planning, the National Urban Development and Housing Framework, and the Physical Development Framework of Metropolitan Manila are briefly reviewed.

1.1 Quezon City in Its National and Regional Context

1.1.1 National Framework for Physical Planning (NFPP) (2001-2030)

The overall long-term physical planning challenge that the NFPP addresses is to provide policy guidelines towards the envisioned growth of the country in a manner that is efficient, equitable, and sustainable. It is a concern that is rooted on the fundamental condition that the country seems to be locked in – that of limited physical and economic resources in the face of increasing demands from a population that continues to grow to unprecedented levels.

The framework provides for the Land Use Policy guidelines covering the four (4) major land use components of Settlements Development, Production Land Use, Protection Land Use and Infrastructure Development. Major issues and concerns and corresponding policy options in planning for each component were defined in the framework.

Settlement Development. This focuses on the spatial distribution of shelter, its support infrastructure and networks, and services. It is also concerned with the interrelationships of settlements as they develop and establish functional linkages based on their respective resource endowments and comparative advantages. Some policies under this title that are of relevance to Quezon City include:

(a) The formulation of town and city plans with close attention paid to improving opportunities for economic growth, delivery of services, and the overall quality of life;

(b) To accommodate future growth such options as urban renewal/redevelopment, assisting small towns to grow, metropolitan arrangement, opening new towns/cities, and infilling vacant lands or increasing densities in built up areas shall be considered depending on the local situation;

(c) Addressing the problem of informal settlements through such approaches as direct allocation of affordable housing, improving access to unutilized land, encouraging mixed use and higher density developments in selected areas; and improving infrastructure support to existing residential areas; and

(d) Avoiding the location of residential developments in hazard-prone areas and reducing

carbon footprints of residential areas through encouragement of planned mixed use developments, increased transit use, pedestrianization, and cultural/historical preservation in large urban centers.

Production Land Use. The primary objective of planning for this land use is to determine the most efficient and equitable manner of utilizing and managing land resources so that there is adequate and accessible space for sustainable food production, forest and mineral resource extraction, industry and tourism, with the end in view of meeting the material and other requirements of the population. Relevant policies have to do with:

(a) Identifying and delineating potential tourism areas and promoting the development of these areas by providing infrastructure support giving due consideration to their social and environmental impacts;

(b) Reviewing the performance of existing industrial areas and exploring alternative uses of non-performing ones; and

(c) Adopting and implementing land use policies and zoning regulations that encourage the use of disaster mitigation and environmental protection measures that are embedded in the production process.

Protection Land Use. This refers to the conservation and management of sensitive/critical ecosystems to preserve their integrity, the rehabilitation of degraded resources to allow them to regenerate, and the identification of environmentally constrained areas and limiting access to these areas to protect the human population from environmental hazards. Salient protection policies include:

(a) Delineation and demarcation of protected area boundaries to prevent confusion and conflict among affected segments of the population; and

(b) Intensifying information, education and communication campaigns to instill in people the value of protecting certain resources and of disaster preparedness.

Infrastructure Development. The role of infrastructure in national development is to provide the built-up environment that allows production, consumption and service activities to take place. Infrastructure development in the NFPP covers five subsectors : transportation, communications, energy, water resources and social infrastructure. Selected infrastructure policies of relevance to Quezon City are:

(a) Promotion of inter-modal transportation systems, taking into account compatibility, economic feasibility, comparative advantage and linkages to facilitate smooth transfer of people and goods between points;

(b) Prioritizing projects that allow increased access to basic social and development services while catering to the productive sectors and market-based industry putting the entire population into the mainstream of sustainable development; and

(c) Incorporating disaster mitigation principles in infrastructure development.

These national policies shall inform the planning and management of Quezon City's physical development over the long time horizon.

1.1.2 The National Urban Development and Housing Framework (NUDHF) 2009- 2016

In the near term the direction of urban development for the country is defined by the National Urban Development and Housing Framework as mandated by the Urban Development and Housing Act of 1992 (RA 7279).The current National Urban Development and Housing Framework (NUDHF 2009-2016) is an update of the previous framework (NUDHF 1999-2004)

The Framework envisions for the country an urban system that facilitates economic growth, develops and strengthens local comparative advantages, and significantly improves the quality of life of its residents.

The three (3) basic themes that form as structure of the Framework consist of : (a) urban system; (b) housing and communities; and (c) governance. The first theme is divided into two

sub-themes: urban competitiveness and poverty reduction; the second, into housing affordability and delivery and sustainable communities, and the third, into performance-oriented governance. To illustrate:

(a) *Urban competitiveness.* The urban system plays a major role in the economic development of the country. Given increasing global integration, the extent to which the cities that comprise the urban system can play this role depends on their competitiveness relative to other cities of the region and of the world.

The urban system	Urban competitiveness Poverty reduction
Housing and communities	Housing Affordability and delivery Sustainable communities
Governance	Performance-oriented governance

(b) *Poverty reduction.* The continued relatively high poverty incidence in the country is a direct result of the lack of pro poor economic growth. As concentrations of economic activity, cities can serve as agents of poverty reduction.

(c) *Housing affordability and delivery.* A significant part of the problem plaguing the housing sector in the country is the lack of affordability. The fundamental solution to this problem is again rooted in economic growth, which provides employment and income to households, which, in turn, can increase affordability levels. In the short-medium term, increasing the availability of housing credit and financial resources as well as lowering the cost of land and housing production can make a significant difference.

(d) *Sustainable communities*. Communities need a combination of function and amenity based on acceptable environmental standards. They need to be sustainable by providing minimum service standards as well as from the point of view of global climate change.

(e) *Performance-oriented governance*. Governance cuts across all modules. It is the key to improving urban competitiveness and poverty reduction, to providing shelter, and to the development of sustainable communities. Improving efficiency, reducing wastage and corruption, and improving coordination across all layers of bureaucracy are needed while taking into account the decentralized structure of government.

The Framework is intended primarily as a guide to the formulation and implementation of plans, programs and activities (PPAs) of both local and national government through its strategic recommendations.

Recommendations are prescribed according to the themes and modules as follows:

1. *For urban competitiveness*
   - Improve national competitiveness by increasing productivity and efficiency of urban industrial regions. Build on existing strengths in manufacturing and producer services. Focus export-oriented activities in core export areas which are potentially globally competitive.
   - Support development of strategic clusters; enhance value added of existing clusters, support local promise, orient development planning, research and data collection to clusters.
   - Increase Metro Manila's attractiveness as a global service center and visitors' destination by improving basic functions, addressing traffic congestion, mobility, pollution, etc., - essentially taking steps to demonstrate that the city works.
   - Support IT enabled services to further enhance the country's competitive advantage in the sector.
   - Support tourism sector and its regional/urban-rural linkages.
2. *Poverty alleviation*
   - Urban-rural linkages
     * Recognize and enhance rural-urban linkages of poverty alleviation to improve labor mobility and increase the

sharing of market information among rural producers and urban consumers.

- Population management
  - Encourage smaller size families
- HR and livelihood
  - Support human resource and livelihood programs aimed at poverty alleviation.
  - Increase entrepreneurial opportunities for the poor.

3. *Housing affordability*
   - Local regional planning
     - Link local land use/physical and community development plans with industry/local employment generating investment programs.
   - Land access and management
     - Provide incentives to unlock land for affordable housing.
     - Provide and encourage access to land for affordable housing.
   - Explore promising financing sources and schemes
     - Increase funding and other resources for proven and key housing programs and institutions.
     - Streamline housing development transaction processes; reduce transaction costs and protect housing consumers.
4. *Sustainable communities*
   - Use market-based incentives and disincentives to provide public amenities to support urban land use objectives.
   - Encourage sustainable planning/green building
     - Review and revise traditional zoning and encourage sustainable and private sector initiatives through performance and service standards.
     - Anticipate and encourage sustainable development and building practices in local and metropolitan development plans and other ordinances.
     - Continue to build capacities of LGUs in development and land use planning.
   - Integrate climate change adaptation and disaster risk management into community and regional development.
5. *Performance-oriented governance*
   - IRA-based incentives
     - Provide incentives for LGUs to be less IRA dependent and to mobilize their own revenue source; encourage LGUs to tap innovative financing schemes.
   - Horizontal linkages (plan-implementation)
     - Strengthen LGU capacity building in strategic planning, investment programming, budgeting and implementation linkages.
   - Interagency coordination
     - Improve vertical coordination among levels of administration (national, regional, provincial and city/municipal)
   - Transparency and accountability
     - Increase accountability of LGU and private sector; increase process transparency to minimize opportunities for corruption; support private-public partnerships in project implementation.
   - Encourage and support performance-based local governance.
   - Interlocal coordination
     - Support metro (interlocal) jurisdictional cooperation; provide real incentives to interlocal cooperation; harmonize legal and service management mechanisms among metropolitan LGUs.

1.1.3 Towards a Humane World-Class Metropolis : A Physical Development Framework Plan for Metropolitan Manila (1996-2016)

The Physical Framework Plan for Metropolitan Manila for the period 1996-2016 envisions Metro Manila as a humane, world-class metropolis renowned for its livability, economic vitality and socio-cultural exuberance. It also positions Metro Manila as the center of a growth polygon which will influence the creation of socio-economic opportunities for areas beyond metropolitan boundaries.

To achieve the vision for Metro Manila, the Plan adopted a strategy of development based on selective specific policy zones consisting of areas with varying stages of development. These policy zones are :

(a) *Regeneration Development Areas (RDA).* These are zones within the urban centers, mainly the inner core, where new construction and expansion of factories, higher educational institutions, among others are to be contained. Activities proposed for these zones include regeneration, redevelopment and preservation.

(b) *Suburban Development Areas (SDA).* These are zones located in the intermediate and outer cores of Metro Manila where planned development especially for shelter or housing is encouraged subject to local zoning regulations and environmental laws.

(c) *Urban Promotion Areas (UPA).* These are zones located in the intermediate and outer cores of Metro Manila wherein industries may be promoted in order to serve as alternatives to activities which may no longer be feasible in the RDAs. These areas are also treated as redevelopment areas where structures and land use could be changed to other suitable activities consistent with the preferred development thrusts.

(d) *Urban Promotion Areas (UPA).* These are zones located in the intermediate and outer cores of Metro Manila wherein industries may be promoted in order to serve as alternatives to activities which may no longer be feasible in the RDAs. These areas are also treated as redevelopment areas where structures and land use could be changed to other suitable activities consistent with the preferred development thrusts.

(e) *Urban Control Areas (UCA).* These are zones extensively residential and commercial in nature and where land supply is considered exhausted except for some pockets of idle lands which are already intended for future development. New or additional developments are better deferred since they pose a strain on existing amenities and facilities. Preferred activities are addition of basic services, enhancement of facilities and utilities and establishment of sound environmental management programs.

(f) *Environmental Preservation Areas (EPA).* These are zones which are environmentally sensitive and where limited land use activities could be allowed.

The foregoing zones designated in the Metropolitan Framework Plan impinge on specific areas of Quezon City as follows: the area south of EDSA falls under Regeneration Development Areas (RDA), the portion north of EDSA which is largely within the boundaries of District II belongs to Urban Control Areas (UCA), all the Triangle areas to be for Urban Promotion (UPA), the La Mesa Dam together with the faultline and the rivers belong to Environmental Preservation Areas (EPA), and the Quezon Memorial Circle as the Tourism Development Area (TDA). These macro-level zones are by and large consistent with the spatial strategy and land use policies that are discussed in detail in this Revised Comprehensive Land Use Plan of Quezon City (2010 Edition).

1.2 Rationale for Plan Revision

The time horizon of the present Comprehensive Land Use Plan (CLUP) on 2010. From the year it was approved in 2000, significant transformations have taken place in terms of the pattern, direction and intensity of change in the physical environment of the city. These changes are discussed fully in Chapter 2.

Another factor that has made the plan revision imperative is the general election in May 2010 that resulted in the change over from one administration to another. With this revised plan the new leadership can now claim ownership over such a vital document that will serve as a new guidepost to help them direct the growth of the city towards the preferred scenario as articulated in the vision statement.

Yet another factor that has pushed the need for plan revision to the front yard is the growing and widespread concern for disaster risk reduction and climate change adaptation. The clamor for a revision of the current zoning ordinance, for example, was raised by several sectors of the city's constituency who had experienced weather-related disasters whose severity was yet unheard of in recent memory. The passing of two laws, the Climate Change Adaptation Act (RA 9729) and the Disaster Risk Reduction and Management Act (RA 10121), has made it mandatory for all local government units to mainstream disaster risk reduction and management (DRRM) in all local government systems and processes.

For its part, Quezon City has taken the decisive move to make its CLUP, CDP, and all subsequent detailed plans and programs DRRM/*CCA* -compliant.

The Climate Change Adaptation Act mandates the formulation of a Framework Strategy for Climate Change by the Climate Change Commission (CCC) created under the Act. The Framework should be based on climate change vulnerability, specific adaptation needs, and mitigation potentials, in accordance with international agreements. The CCC formulated the National Framework Strategy on Climate Change for 2010-2020, identifying key result areas (KRAs) and strategic priorities for Mitigation and Adaptation as well as strategies on cross-cutting areas of Capacity Development, Knowledge Management, Information Education and Communication (IEC), Research and Development (R&D), and Technology Transfer. The Framework Strategy was translated into the National Climate Change Action Plan for 2011-2030. The Plan sets seven priorities which are Food Security, Water Sufficiency, Environmental and Ecological Stability, Human Security, Climate-friendly Industries and Services, Sustainable Energy and Knowledge and Capacity Development.

The Philippine Disaster Risk and Reduction and Management Act of 2010 (RA 10121) decrees the strengthening of the Philippine Disaster Risk Reduction and Management providing for the National Disaster Risk Reduction and Management Framework and the National Disaster Risk Reduction and Management Plan.

The National DRRM Framework of 2011 envisions a "safer, adaptive and disaster-resilient Filipino communities towards sustainable development" to be achieved through four (4) distinct yet mutually reinforcing priority areas: (a) Disaster Prevention and Mitigation; (b) Disaster Preparedness; (c) Disaster Response; and (d) Disaster Recovery and Rehabilitation. The National DRRM Plan for 2011-2028 sets long-term goals, objectives, outcomes and activities for the said four priority areas which can guide LGUs in preparing their own Local DRRM Plan and implementing projects in accordance with their local plan.

2 LAND USE AND INFRASTRUCTURE DEVELOPMENT CHALLENGES

This chapter highlights the issues arising from observed changes in the way land is being occupied and utilized within the territorial jurisdiction of Quezon City. The observations were initially made from aerial photographs taken in 2003 and 2009. Additional information was then sought from other sources whenever available. Background information as well as explanations and implications of the observed changes, were based on local knowledge, the analysts being either residents of, or are thoroughly familiar with their respective areas. Further validation on the ground was made whenever the occasion called for it.

The observations are classified under the basic urban land use categories, namely, residential, commercial, industrial, institutional, infrastructure and utilities, and parks and open spaces. (*See Annex 1*) The table summarizes the changes in each of the land use categories. The rest of this chapter provides a discussion of the observed changes.

2.1 Land Use Patterns

2.1.1 Residential Land Use

In 1972, residential communities comprised about 21% of the City's urban area, with the southern half (District I, III & IV) being extensively occupied. In the northern half, meanwhile, residential areas were concentrated in the western part and linearly located along major roads like Quirino Highway from Balintawak to Novaliches and along Tandang Sora Avenue from Quirino Highway to Commonwealth Avenue. At the eastern half of upper Quezon City, Fairview Subdivision had yet to develop as a new satellite community.

Residential growth continued its northward spread so that by 1985, new communities had established inwards from both sides of Quirino Highway and Tandang Sora Avenue. However, a faster pace can be observed along Commonwealth Avenue (which, by then, was of more improved condition, widened and concreted) where large-scale residential developments have taken place, like Filinvest Homes, Don Antonio, BF Homes and Mapayapa Subdivision. Lagro served as the new satellite community in that part of the city integrating the linear growth from Quirino Highway on the west to that along Commonwealth Avenue on the east, even as large tracts of land in the mid-section of the district remained vacant due to poor accessibility. The southern parts of the city meanwhile had grown inwards through in-filling, diminishing what used to be pockets of vacant land in the inner areas.

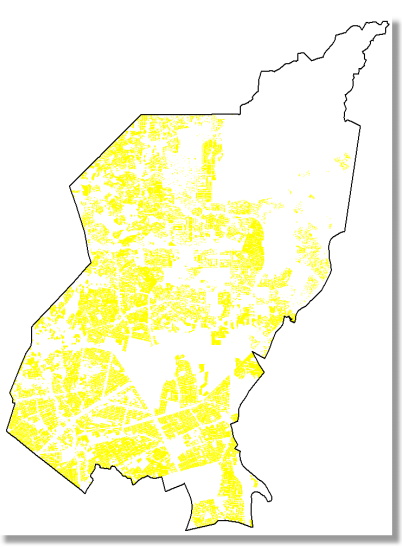

Fig 1: **Residential Map 2003**

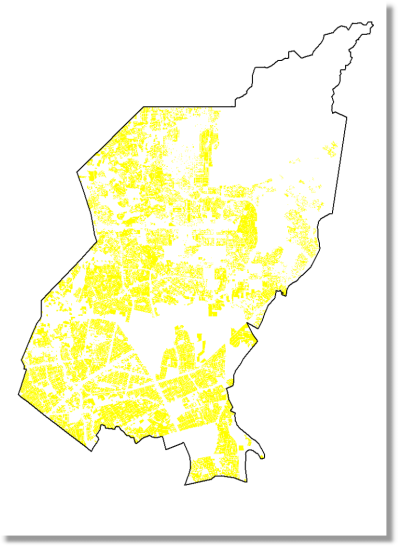

Fig 2: **Residential Map 2009**

In 2009, residential development increased with the opening of new subdivisions in District II particularly in Capitol Area, Tandang Sora, Fairview and Sauyo. Moreover, the conversion of former industrial lots into residential areas such as those of Sierra Vista in Bgy. Nagkaisang Nayon and Circulo Verde in Bgy. Bagumbayan, contributed to the increase. Other contributing factors to the growth of residential land use are the conversion of the commercial areas in District 1 particularly in Bgy. Maharlika and Lourdes, the military camp, and a portion of La Mesa Reservoir reservation into a housing project.

Densification of residential areas was also noted in 34 barangays of the city from R1 to R2 and R3. Residential lots in R1 were converted into multiple-dwelling units like townhouses and apartments. In R2 zones structures were converted into medium-rise buildings.

Conversion of residential lots into commercial use is also evident in the linear expansion prevailing in District I and District II from R2 or R3 to C1; this is attributed to the opening of new roads and the improvement of existing ones.

Another notable change is the deterioration of some of the city's old residential areas located in Galas, Laloma and Project 4. This is attributed partly to the absence of property owners who had left for other places and entrusted their property to caretakers. Another reason is the subdivision of some big properties into smaller lots, thus making it difficult to consolidate these again for purposes of undertaking commercially viable redevelopment projects

With the city's vast area of vacant spaces particularly in District II proliferation of informal settlers is also evident in almost every available lot, be it privately or government-owned, or even along waterways and other high risk areas. Many properties however have been developed into Socialized Housing Projects including Community Mortgage Projects (CMP) As of 2010, the city made 215 CMPs with 9,204 beneficiaries of said 5,308 generated lots in 19 city-owned properties. Overall, residential land use coverage increased from an area of 4,251.87 ha. in 2003 to 4,403.63 ha. in 2009.

2.1.2 Commercial Land Use

Commercial establishments in the city have the tendency to locate in areas accessible from residential concentrations. Hence, ribbon type of growth has been the dominant feature of commercial development in the city. Although not entirely undesirable, such type of development leads to traffic congestion.

In 1972, commercial strips along major roads were mostly concentrated along Quezon Avenue and A. Bonifacio Avenue. Only the Cubao area particularly Araneta Center could be considered a more prominent commercial node in the city. Smaller commercial centers of neighborhood scale usually established around public markets could be found throughout the developed residential areas in southern Quezon City, at the Balintawak market area, at Munoz

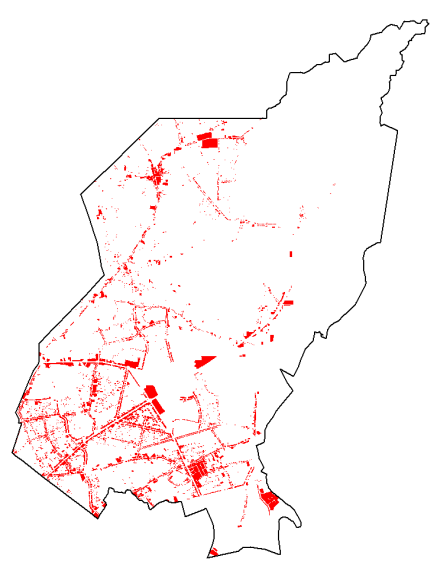

Fig 3: **Commercial Map 2003**

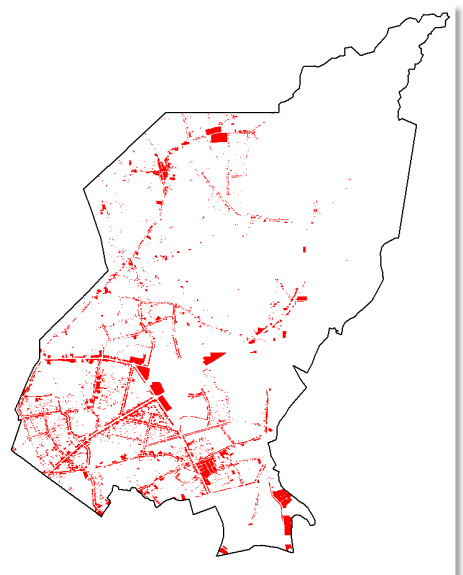

Fig 4: **Commercial Map 2009**

Market vicinity, and at Novaliches Proper.

This type of land use occupied merely 0.88% of the City's urban area. With the introduction of the "shopping center" type of commercial establishments in the mid 70's, activity in Cubao increased, followed by SM City in the northern area and at Broadway Centrum in New Manila in the 80's. In 1995 more commercial nodes emerged such as at Sta. Mesa where SM Centerpoint is located and at Capitol which is being serviced by the Gotesco Center. Simultaneously, intensification and continuing linear spread took place within the populated districts so that by 1995, commercial areas' share had trebled to 2.93% of the urban area.

In the year 2000, additional commercial areas emerged in Fairview (SM City site), North Triangle Business Center (where MRT 3 main depot is located), and the Eastwood Cyberpark, the country's free trade area for information technology at Bagumbayan where the headquarters of IBM and Citibank are located.

Commercial development in the city proceeded at a fast clip thereby increasing its land use share from 5.93% in year 2003 to 6.26% in 2009. This was brought about by the intensification of commercial activities within residential and industrial areas, in addition to those in commercial zones, in all districts of the city. In District I this was observed along roads categorized as residential along Examiner, Corumi, D.Tuazon, Road 20, Corregidor, Road 8, Del Monte and Dangay Streets. Commercial establishments intensified also in N.S. Amoranto Street, Shorthorn, Mindanao, and Visayas Avenues. In District II this trend was seen in Dahlia, Luzon Ave., San Mateo-Batasan Road, Litex and Buenamar Roads, Commonwealth Avenue, Fairview Extension, Quirino Highway, General Luis and Regalado Avenue. District III commercial intensification was noted along Molave Street, Xavierville, Esteban Abada, 20th Avenue, Liberty and Main Avenues, Maginhawa, Sct. Chuatoco, Ybardolaza, V. Luna Extension and Kitanlad Street. In industrial areas intensification of commercial activities was seen at the portion of Ugong Norte adjoining the Libis Cyberpark. Ribbon-type development is still the dominant feature of commercial development combined with the intensification and continuing linear spread at the city's major avenues and areas with distinct features. In 2009, major land developments had taken place with the promotion of mixed use development supported by high impact infra projects. This trend is changing the character of commercial land use from linear to nodal or concentrated form. Commercial land use is seen to increase in absolute and relative terms due to continued conversion of residential areas into commercial uses. Attached on *Annex 2-A* is the updated list of registered businesses in Quezon City.

The construction of the LRT station in Cubao and the alignment of elevated tracks along Aurora Boulevard, however, contributed to the deterioration of the area and the gradual closure of small retail and service shops fronting Aurora Boulevard.

Novaliches Proper and the Quezon Institute compound are two areas that failed to develop according to their intended use or reuse due to narrow streets which are not conducive to intensive commercial activities

2.1.3 Industrial Land Use

From 1995 to 2000, a decrease in industrial development was observed in the city due to the national policy on dispersion of big industries to areas outside Metro Manila. Industrial development remains confined at the city's traditional industrial zones such as Balintawak, Novaliches and Libis due to their proximity to the industrial areas of adjoining cities, Caloocan and Pasig City. In Libis, areas zoned as industrial are now being converted into commercial use taking advantage of the spill-over effect of the recent development of Eastwood City. This conversion trend has led to a diminishing share of industrial use from 3.99% in 2003 to 3.80 in 2009. It is perceived that industrial areas

would continue to decrease.

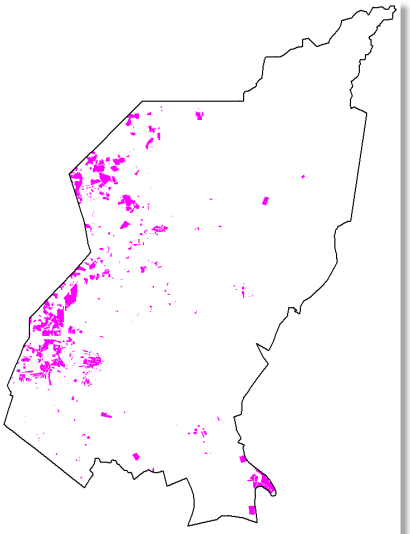

Fig 6: **Industrial Map 2009**

Industrial development in the Balintawak area will however, continue for some more time due to the development of several major roads that link it to the seaport and the North Luzon Agro Industrial Economic Center (Subic and Clark). For its part, the Payatas area has become a viable place for light industries due to the economies generated by the existing dumpsite, particularly those related to materials and energy recovery.

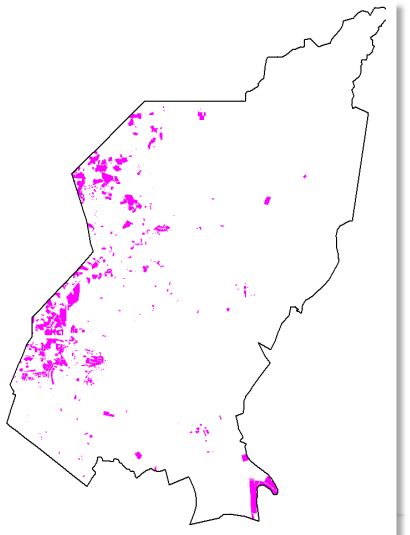

Fig 5: **Industrial Map 2003**

2.1.4 Institutional Land Use

Institutional areas in 1972, constituted 3.41% of the city's urban area, concentrated mostly in Districts I, II, and IV particularly along East Avenue and the Elliptical Road. These are national agencies (LTO, SSS, BIR, DA, DAR) and government medical institutions (Heart Center, East Avenue Medical Center) that have already been established since then. The large tracks of land occupied by major universities/colleges like the University of the Philippines, Ateneo de Manila University and Miriam College also form part of the traditional institutional zone

Adding to the inventory of institutional areas are those occupied by at least 588 public and private schools (pre-school, elementary and secondary levels), 87 colleges and universities including vocational and technical schools, 61 public and private hospitals, 61 health centers, 130 barangay halls, 12 police stations, 19 fire stations, 125 churches and chapels, and 67 government offices/agencies.

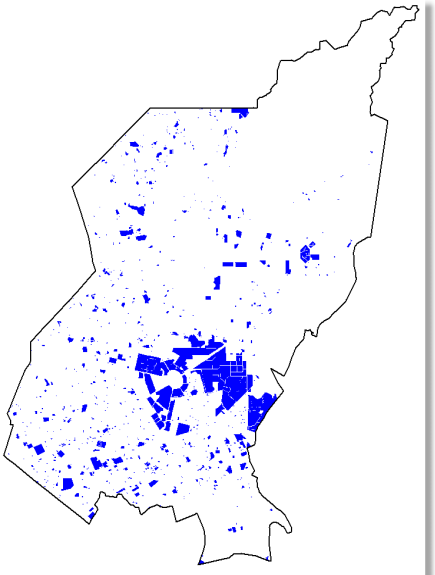

Fig 7: **Institutional Map 2003**

In recent years various institutional lots were converted into commercial and residential. The National Government Center site located in District II is one of the major institutional zones of the city that was reduced in size with the declaration of 150 ha at westside as socialized housing

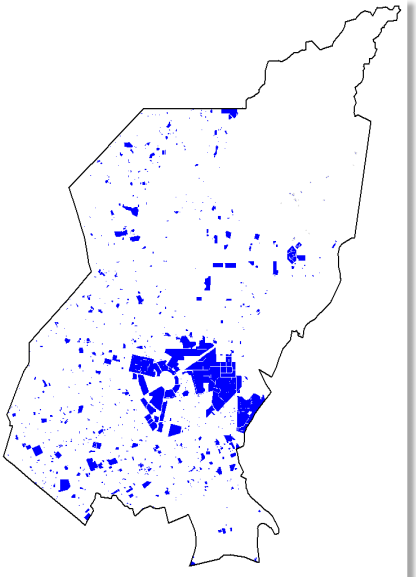

Fig 8: **Institutional Map 2009**

site under Presidential Proclamation 134 and another area on the eastside covering more than 100 ha as socialized housing site under Proclamation 9207. Similarly, some portions of undetermined size of UP Campus such as Krus na LIgas have also been withdrawn, albeit unofficially, from institutional use.

With the rapid increase in the city's population and the resulting growth of residential communities, the need for support institutions such as schools of all levels, health facilities, and the like, increased, especially in highly populous District II. Service providers, both government and private, responded to the need. The net effect of this is the almost negligible increase in the total share of institutional land use. The lands allocated for these latter institutions moreover are severely inadequate. Their locations were sporadic and lot sizes were below the standard prescribed by the national government. Lack of sites of adequate size for public schools particularly in District II coupled with the existence of big classes and 2-3 shift class schedules has resulted in overpopulated schools and poor learning conditions.

Another observation is the lack of space for public cemeteries, as existing cemeteries have already far exceeded their capacity and the number of burials is increasing. This resulted in congestion with graves seen spilling into paths and walkways.

2.1.5 Other Uses (Historical/Heritage and Cultural Sites, Tourism District, etc.)

The National Historical institute (NHI) identified several historial sites in Quezon City based on their importance, characteristics and significance. Among these sites is the Pugad Lawin Shrine in Barangay Bahay toro, where the first cry of freedom against the Spanish colonial regime was made. A famous historical landmark in the city is the Quezon Shrine in the 25-hectare Quezon Memorial Circle (QMC). Inside the shrine are the tomb of President Manuel L. Quezon, the city's founding father and the museum dedicated to him.

An obscure site at General Macabulos Street in Barangay Bagong Silangan is the General Lawton Monument. The US General was killed on this site by the Katipuneros during the American's occupation of the country.

The internationally famous, especially to freedom-lovers, 1986 EDSA Revolution occurred at the Epifanio delos Santos Avenue (EDSA) bordering Camp Aguinaldo and Camp Crame. To commemorate the historical events there are

now established EDSA Shrine at the corner of EDSA and Ortigas Avenue and the People Power Monument at the corner of EDSA and Katipunan Avenue. (See Annex 2.3 for list of other major uses)

2.1.6 Trends in the Built Environment

From 2003 to 2009, construction of residential structures 8 floors and above happened mostly in District IV (34) approved applications for Location Clearance) followed by District III (14) then District I (13). District II has the lowest share (6) in this type of development. However, for low-rise constructions with 1 to 3 storeys, District II came out on top with 10,110 applications followed by District III (2,441) and District I (2,371). District IV trailed behind with only 1,780. From this trend it can be observed that urban expansion is taking the form of densification in the older

built up part of the city (District IV, III, and I) while low density development is still typical in the relatively under-built District II.

This trend indicates that District II and some parts of District III are still in the initial development stage where new communities are being put up from once vacant lands. In the older built-up areas on the other hand, redevelopment and transformation towards densification through upwards expansion is the occurring pattern. Land values may also be attributed in places where these higher buildings are opted than low rise structures.

For commercial developments, the typical retail and service type of activities still dominate as indicated by the volume of approved applications for location clearances where, from

Table 2.1
Approved Location Clearances for Residential Building Construction (2003 to 2009)

No. of Storeys	Dist I	Dist II	Dist III	Dist IV	Total
1 to 3	2,371	10,110	2,441	1,780	**11,125**
4 to 7	131	101	116	137	**485**
8 & up	13	6	14	34	**67**
District Total	**2,515**	**10,217**	**2,571**	**1,951**	**17,254**

Source : QCPDO

2003 to 2009, 91% of 1,948 are for low rise (1 to 3 floors) structures, 8% for medium rise (4 to 7 floors) and a mere 20 clearances (1%) for commercial buildings 8 floors and up.

Again, most of these construction projects are in District II (550) followed by District IV (534), District I (506) and District III with 358 projects .

Table 2.2
Approved Location Clearances for Commercial Building Construction (2003 to 2009)

No. of Storeys	Dist I	Dist II	Dist III	Dist IV	Total
1 to 3	456	526	321	461	**1,764**
4 to 7	44	23	32	65	**164**
8 & up	6	1	5	8	**20**
Dist Total	**506**	**550**	**358**	**534**	**1,948**

Source: QCPDO

2.Infrastructure Development

2.2.1 Road Network

The City's total road length as of 2009 is 2,247.75 kilometers, an increase of 32.34 kms from 2003. This was generated by new subdivisions and multi-dwelling villas developed during the period, located mostly in District II and District III.

Table 2.3 : **Comparative Road Length 2003 and 2009**

Category	2003 (Kms)	2009 (Kms)	Increase/(Decrease) (Kms)
Primary	156.68	158.46	1.78
Secondary	160.13	161.26	1.12
Alternate	40.17	40.43	0.25
Collector	370.39	373.80	3.40
Tertiary	1,311.93	1,333.04	21.10
Service	176.20	180.77	4.68
Year Total	**2,215.41**	**2,247.75**	**32.34**

Source: QCPDO

The growth pattern is generally of an inward expansion from the existing primary roads (ie: Quirino Highway, Commonwealth Avenue and Tandang Sora Avenue) to inner areas where most of vacant lands are situated.

Extension and inter-connection of main roads also took place, these are: Katipunan Avenue in

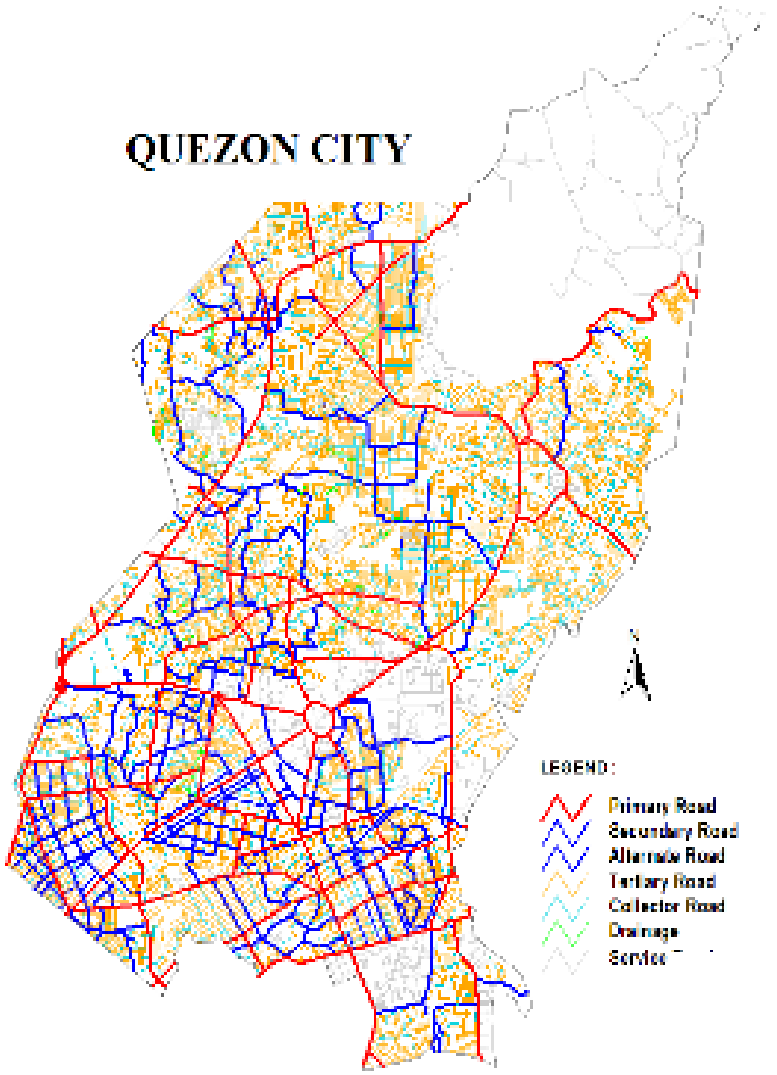

Fig 9: **Existing Road Network Map**

Table 2.4
Increase/Decrease in Road Length by Category, by District, 2003-2009

Category	Dist I (kms)	Dist II (kms)	Dist III (kms)	Dist IV (kms)
Primary	0	1.78	0	0
Secondary	0	0.85	0.29	0
Alternate	0	0.25	0	0
Collector	0	1.51	1.89	0
Tertiary	0.33	16.50	3.35	0.92
Service	0	1.14	0	3.53
Dist Total	0.33	22.04	5.52	4.45

Source: QPCDO

Nagkaisang Nayon, South Zuzuarregui Street in Old Balara, Congressional Avenue in Culiat. This provided alternate routes to motorists that decongested traffic in parts of the network (Novaliches Proper, Tandang Sora Avenue corner Capitol Hills Drive, Tandang Sora Avenue corner Visayas Avenue) made easier access to interior communities and opened up land-locked areas for development..

Table 2.5
Total Road Length by Category, by District, 2009

	Dist I	Dist II	Dist III	Dist IV
Primary	32.56	65.00	21.75	**39.14**
Secondary	38.19	52.29	26.57	**44.22**
Alternate	13.95	12.86	5.17	**8.45**
Collector	53.88	230.36	48.55	**40.91**
Tertiary	173.80	819.35	180.11	**159.78**
Service	11.70	75.78	41.25	**52.44**
Dist Total	324.08	1,255.34	323.40	**344.93**

Source: QCPDO

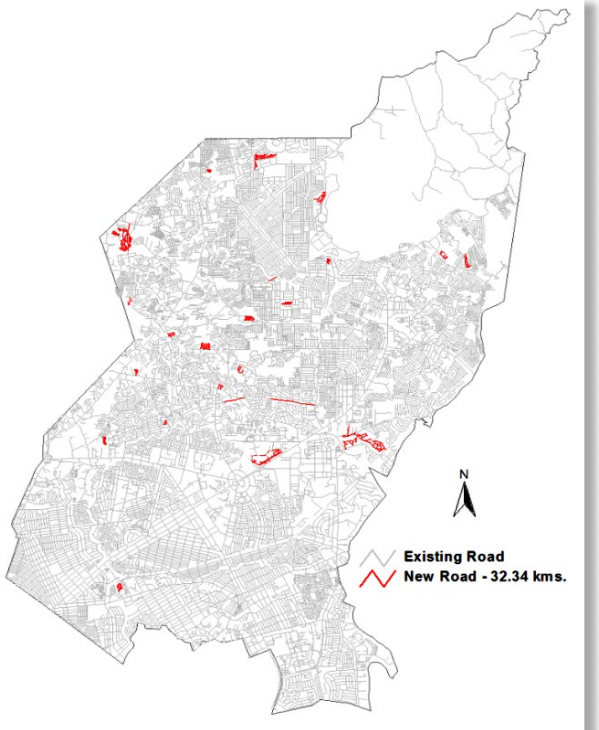

Fig 10: **New Road Map**

Capacity improvement projects were undertaken to improve traffic flow along Commonwealth Avenue (additional 2 lanes both sides), General Luis Avenue (one lane each side) and Payatas (Litex) Road (one lane both sides). Luzon Avenue, from Commonwealth Avenue to Congressional Avenue and Katipunan Road in Pansol (2 lanes north bound) including the construction of a new road segment along Capitol golf course until the fly-over across Commonwealth Avenue under the C-5 project.

Currently, road density in the City is at 16.68 kms per 100 hectares (kphh) which is still below the 26 kphh density for a totally built up urban area. This indicates the presence of undeveloped lands in the City.

Districts II and III were noted to have the lowest ratio for primary roads. The inner area bounded by Quirino Highway, Commonwealth Avenue, Tandang Sora Avenue and Mindanao Avenue in District II, lacks primary roads for direct access to communities thereat. Other areas experiencing difficulty of access due to lack of primary roads are Nagkaisang Nayon, Balintawak, Payatas and, in District III, Old Balara (east side of Commonwealth Avenue).

Table 2.6
Road Density (2009)

Category	Dist I (kphh)	Dist II (kphh)	Dist III (kphh)	Dist IV (kphh)	City (kphh)
Primary	1.67	0.94	0.97	1.66	1.18
Secondary & Alternate	2.67	3.33	1.62	2.69	1.50

Source : QCPDO

2.2.2 Transport

Based on the traffic survey on major roads conducted by the MMDA Traffic Engineering Center, EDSA is the most heavily used road in the City with a total of 2.06 million vehicles per day (mvpd), followed by A. Bonifacio Avenue with 1.34 mvpd, then Katipunan Avenue (C-5) and Quezon Avenue each with 1.34 mvpd. Along EDSA, the portion from West Avenue to Quezon Avenue has the highest count at 0.3 mvpd while the lowest is at the section from Bago Bantay to Congressional with 0.120 mvpd. Along Quezon Avenue, the highest volume occurs at the section from BIR Road to Elliptical Road with 0.2 mvpd and the lowest is from D. Tuazon to Banawe at 0.1 mvpd.

As to type of vehicles, jeepneys comprise 9% of the total traffic volume while buses make up 4%. Cars comprise 70% while trucks represent 4%. Motorcycles make up 12% of the total number of vehicles in the streets. For tricycles which ply the inner areas, the City's Tricycle Regulatory Unit has registered a total of 24,800 tricycles distributed among 150 Tricycle Operators and Drivers Association (TODA) routes.

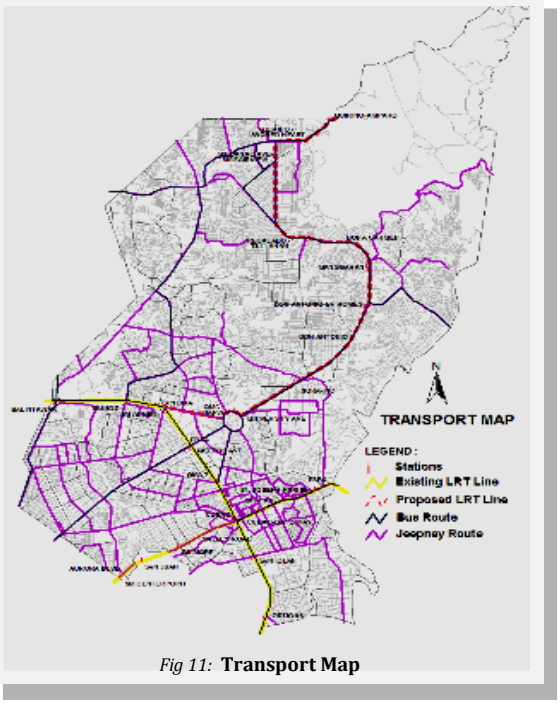

Fig 11: **Transport Map**

Light Rail Transit systems operate along EDSA and Aurora Boulevard each with capacity of 500,000 passengers per day. MRT 3 along EDSA serves from North Avenue to Taft Avenue in Pasay City (with 5 stations within QC) while LRT 2 on Aurora Boulevard operates from Santolan,Pasig City to Rizal Avenue in Manila (with 7 stations in QC).

Extension of LRT 1 from Monumento in Caloocan City to North Avenue via EDSA is

about to operate, the viaduct of which has been completed. It will link with MRT 3 on a common terminal. Also, pending final approval of the proposal, construction of the proposed MRT 7 from North Avenue to San Jose del Monte City in Bulacan is about to commence.

2.2.3 Power Supply

Manila Electric Company (MERALCO) adequately serves the electric power requirement of the City. Three (3) power transmission lines (two from north Luzon and one from South Luzon) of MERALCO pass within the City

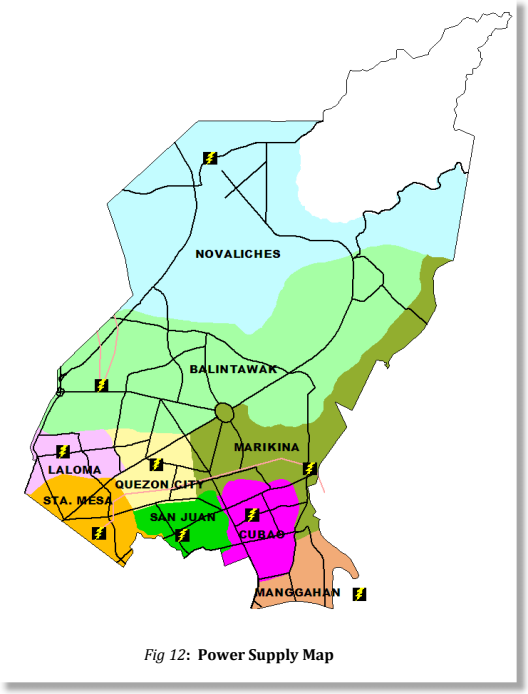

Fig 12: **Power Supply Map**

terminating at its Balintawak and Galas delivery point stations. There are twelve MERALCO sub-stations all over the City.

MERALCO has a total of 512,255 customers in the City as of December 2009. Residential customers comprise 461,645 or 90.1% of this total; commercial make up 9.6% at 49,082 while industrial is at 1,110 or 0.2% and streetlights have 418 accounts. As to energy consumption, commercial users expended 1,803,598 megawatthours (49%) while residential used 1,341,657 MWh (36%) and industrial consumed 516,266 MWh (14%). Streetlights used 26,169 MWh.

Capital projects lined up by MERALCO for the next 5 years (2010 to 2015) include expansion of Balintawak station with installation of a 4th 300 MVA transformer, construction of high voltage (115 kV) lines and expansion of five sub-stations with additional bank units.

2.2.4 Water Supply and Sewerage System

Water supply in the City is provided by the two concessionaires of the Metropolitan Waterworks and Sewerage System (MWSS).

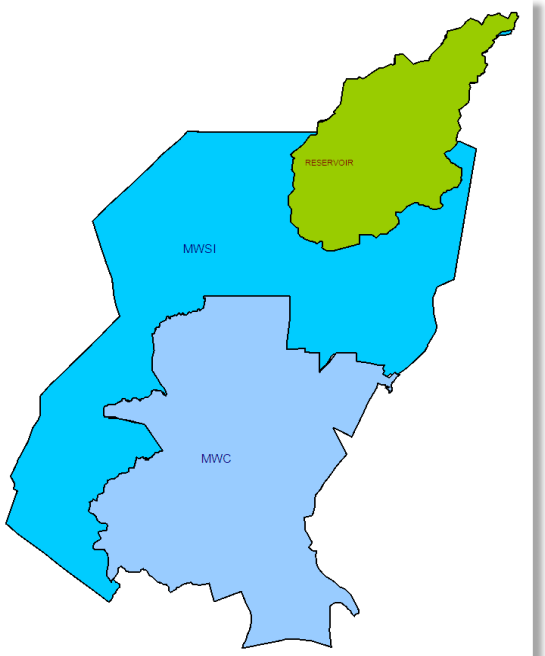

Fig 13: **Water Supply Connection Areas**

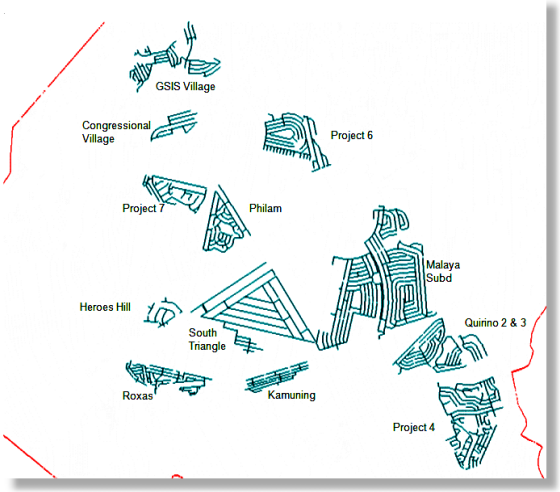

Fig 14: **Existing Community Sewer Treatment Plants**

The north and west parts of the City are within the concession area of Maynilad Water Services, Inc while the southeast is under the Manila Water Co., Inc. *(See Fig. 12).*

As for sewerage, the most common type is the individual septic tank. Community sewer treatment plants exist only in older residential communities mostly developed by the then PHHC (now NHA) namely: Roxas District, Quirino 2 and 3, Project 4, 6, and 7, Malaya Housing Project (UP Village, Teachers Village, Central, Pinyahan, Sikatuna Villages) GSIS Village, Congressional Village South Triangle, Kamuning, Heroes Hill and Philam Subd. (*See Fig. 13).*

Maynilad undertook massive replacement and rehabilitation of the old pipes which dominate its territory being mostly old communities. Expansion of its distribution pipelines network to cover newer communities was also undertaken. From 2007 to 2009, Maynilad spent more than Php 1 Billion for this effort in various parts of the City under its concession area.

There are still parts in the City not yet covered by the supply network of Maynilad. These are in Payatas (around the dumpsite and near the boundary of Rodriguez Rizal), in Holy Spirit (north part of BF Homes), in North Fairview and in Kaligayahan (inner part of Zabarte Subd.).

Maynilad is currently upgrading its Communal Septic Facilities at Congressional Avenue, Project 7 (Road A and Roosevelt) and Project 8 (Legal and Grant) and has plans to build 13 Sewerage Treatment Plants along Dario Creek, San Francisco River and San Juan River from 2010 to 2012.

Manila Water is currently undertaking community-wide water pipe laying works in Culiat and Pasong Tamo (Mira Nila, Tierra Bella, Casanova, Muslim Compound), and Capitol Hills, and main line replacement at Laging Handa, Damayang Lagi, and E. Rodriguez Cubao. For most parts of the City within its concession area, Manila Water has previously completed rehabilitation and replacement of its water distribution pipes but more improvement works are lined up for implementation in 2011 to 2013. This includes pipe replacement along Quezon Avenue, Commonwealth Avenue, North Avenue, and Kamuning Road.

Also being implemented by Manila Water is the massive replacement of sewer lines in Project 6, UP Village, Teachers Village, Central, Pinyahan, Sikatuna, the entire Quirino District and Project 4. Programmed for 2011 are West Triangle, Sta Cruz, South Triangle, Laging Handa, Paligsahan and Kamuning.

2.2.5 Drainage

The City is within the catchment area of five river systems. (Fig. 15.) San Juan River which collects surface run-off in 46% of the City's territory has the largest coverage. This includes the area east side of Quirino Highway at Barangays San Bartolome, Bagbag and Talipapa eastwards to Holy Spirit then at south from Mayon Street in La Loma down to Camp

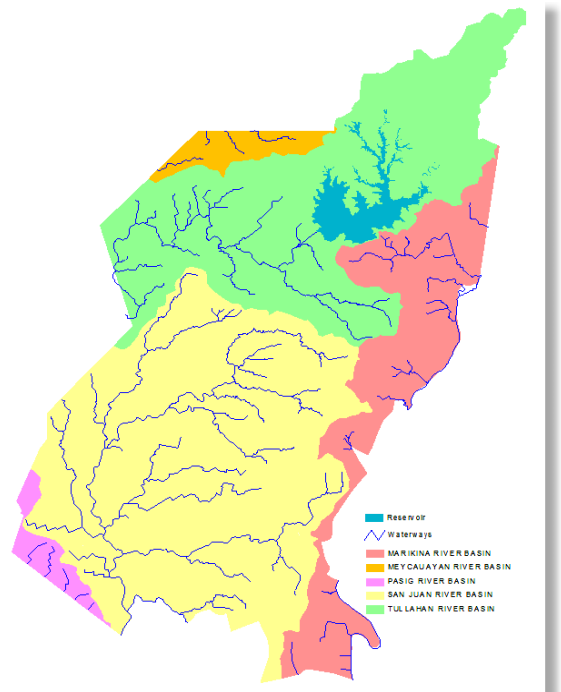

Fig 15: **River Basins Map**

Aguinaldo on the east side. About 100 kilometers of rivers and creeks form the drainage network within this basin.

Tullahan River covers the next largest area at 34% of the City. This includes the Barangays of Commonwealth, Fairview, Lagro then westward to Novaliches, Nagkaisang Nayon then southwards to part of Talipapa on the west side of Quirino Highway. Tullahan River also is the outflow channel of La Mesa Reservoir. About 28 kilometers of creeks act as tributaries to this 12 kilometer main waterway.

Marikina River is third with 15% of the City's territory covered. This includes the area north side of Commonwealth Avenue in Barangay Commonwealth, eastward to Payatas, Bagong Silangan then southwards following the down slope of the ridge at Batasan Hills, Old Balara and Pansol towards Ugong Norte.About 9 kilometers of Marikina River serves as the City's natural boundary into which 25 kilometers of creeks and canals directly flow.

The northernmost part of the City (Green Fields Subd in Barangay San Agustin and Kaligayahan and Maligaya Park Subd in Pasong Putik) with an area about 3% of the City is part of the Meycauayan River basin while the southwest periphery of the City west of Mayon Street in La Loma flows down to the drainage network of the adjoining communities in Manila towards Pasig River. *(See Table 2.7).*

Table 2.7

Power Systems Coverage

BASIN	AREA SERVED (in has)	% of total
San Juan River	7,461	46%
*106.06 kms of rivers and creeks		
Tullahan River (includes 2,478 has La Mesa Dam)	5,416	34%
*40.65 kms of rivers and creeks		
Marikina River	2,533	15%
*34.21 kms of rivers and creeks		
Meycauayan River	407	3%
*5.11 kms of rivers and creeks		
Pasig River	312	2%
*3.99 kms of rivers and creeks		
TOTAL	**16,129**	**100%**
***191.07 kms**		

With elevation range from 2 meters above sea level (a.s.l.) on the south near Manila up to 232m a.s.l. on the northernmost tip of La Mesa Reservoir the City is generally unaffected by tidal flooding. (See Fig. 16.) The low lying areas along the banks of San Juan River in Barangay Dona Imelda-Damayang Lagi and Talayan-Roxas-Kalusugan, elevation at 2 meters above sea level however are prone to overflow flooding should San Juan River start to back flow at its junction with Pasig River. Also prone to back flow flooding due to adjacency to low lying parts of Manila are portions of La Loma at Simoun, Maria Clara, Calamba and M. Cuenco Streets and, in Galas, at Matimyas and Mindanao Streets where the area drainage collector culverts are located.

Exceptional events of flooding have occurred in other parts of the City. The areas near the creeks are most susceptible when excessive downpour happens in the City.

In the built-up parts of the City, road drainage facilities comprised mostly of reinforced concrete pipes and box culverts, serve as local surface drainage collectors that empty into the creek or river.

Flooding occurs on several places in the City's road network during heavy rain mainly due to lack of drop-inlets in these low portions or insufficient size of drainage pipes that easily silted or clogged.

2.2.6 Communications

With the liberalization of the telecommunication industry, more firms are now offering telephone services in the city. As of December 2010, there are five (5) telephone companies

that provide phone services in the city, i.e., PLDT, Bayantel, Digitel, Multimedia and Eastern Telecommunication Services, Inc.

Cellular mobile phones are offered by Globe, Smart, Bayantel and Digitel while broadband services are now available through PLDT, Bayantel, Digitel, Smart and Globe.

Primeworld and Radio Marine. Telegraph and Telex services are provided by PT&T while postal services are provided primarily by the QC Central PhilPost Office. The city has 10 post offices and 9 private postal stations distributed citywide. Other services include mail and parcel delivery, money order, domestic and international express mails and PO Box leasing.

The city is also abreast with modern information technology with the entry of internet service providers and the emerging local and international call centers.

In the broadcast media, in 2010 the city is home base to eleven (11) local television networks including ABS-CBN in Mother Ignacia Street, the GMA Network in Timog cor EDSA, TV5 in San Bartolome, Novaliches , the state-owned NBN in Visayas Avenue and RPN 9 and IBC-13 in Broadcast City Capitol Hills. Also located in Quezon City are six (6) cable TV network, seven (7) AM radio stations, and four (4) FM radio stations. All major newspapers and magazines and publications are easily available even in the remotest corners of the city..

2.2.7 Solid Waste Management System

With the closure of the Payatas Controlled Disposal Facility in December 2010, the City shall be disposing its garbage in a 3.2 hectare Sanitary Landfill, located near the Payatas Controlled Facility. It is owned and operated by IPM-ESI and shall start in January 2011.

The QC Sanitary Landfill is located in Barangay Payatas, in the northeastern part near the boundary of Rodriguez, Rizal. It is about 3.5 kms, from the junction of Litex Road and Commonwealth Avenue and can be reached via the two-lane concrete paved Litex Road.

The Integrated Solid Waste Management Facility has three (3) project components:

- Materials Recovery and Processing Facility for waste reduction/processing
- Engineered Sanitary Landfill for the disposal of residual wastes
- Maintenance and post closure care of the Payatas Controlled Disposal Facility

In order to closely monitor the landfill operation pursuant to DENR regulation and administrative order, a Multi-partite Monitoring Team was created and is composed of the DENR -EMB, MMDA, EPWMD and POG, IPM-ESI, non-government organizations and the Barangay.

The post closure care of the old dumpsite is being undertaken to ensure its safety to human health and the environment. About 1,894 trees and 730 seedlings were planted on the site by different government employees, NGO's and students. At present, there are 87 wells drilled in the old dumpsite to continue the City's Biogas Emission Reduction Project in cooperation with the Italian group called PANGEA Green Energy. The project involves extraction, collection, flaring and conversion to energy of biogas that earns Certified Emission Reduction (CER) or Carbon Credits, revenues which can be used for sustainable development projects.

2.3 Parks and Open Spaces

On vacant lands, a decrease of 175.04 hectares or -1.082 was observed from 2003 to 2009. It took place after the 1997-1998 Asian financial crisis when the economy rebounded and investors became active in development. The city became the place of investment because of the presence of large tracts of land ripe for development. Of the 172.04 ha. of vacant lands in 2003 that were developed, 119.26 ha. or 52.6% were utilized for residential projects which, theoretically, should have included open space allocation ranging from 3.5% to 9% depending on the density. The minimum area of functional open space expected to be generated from the residential development is 4 has. However, the changes in land use distribution from 2003 to 2009 showed that the total area of open spaces has been reduced by 0.57 ha. which should not have been the case. Another observation is the practice of some developers to divide their properties and construct subdivisions or housing projects with sizes below one hectare to be exempted from the open space requirement of the law. This strategy allows developers to maximize use of the land and generate and market more lots for profit at the expense of ecologically balanced development.

In the last eight years, many parks were either developed or rehabilitated. These include major parks like the La Mesa Eco Park, Quezon Memorial Circle and Balara Park and the neighborhood or community parks. These were upgraded and furnished with park amenities and facilities. This development was embarked upon during the Belmonte Administration which recognized the role of parks in the improvement of the environment and the quality of life of the people.

Another observation is the competition for allocation among allowed public uses in open spaces such as schools, health centers, barangay halls, places of worship, roads, parks and playgrounds and recreational areas. In PD 1216, it is clearly stated that open space is an area reserved exclusively for parks, playgrounds, recreational uses, schools, roads, places of worship, hospitals, health centers, barangay centers and other similar facilities and amenities. Technically, all these uses could be accommodated but due to limitation in land area of most open spaces, there is conflict as to which use should prevail over the other.

Structural encroachments and informal settlements on many open spaces were also a reason for the decrease of open space. Likewise the conversion of a portion of La Mesa Dam to a housing project for MWSS employees decreased the share of open space from 15.80% in 2003 to 15.74% in 2009.

Schools like UP, Ateneo de Manila University and Miriam College and some government institutions have huge premises that have remained largely open with relatively small building footprints. These institutions from the very start have big land reserves and do have plans to preserve these huge open space allocations. All these add up to the inventory of open spaces in the city.

2.4 Issues Arising from Observed Land Use Changes

Based on the above table and on the preceding discussions the following observations can be made by way of summary:

(a) Residential land use accounts for the biggest increase both in terms of actual hectarage and percentage share, is added to the residential land. Note however, that the increase in hectarage of socialized housing is almost equal to the decrease in the

Table 2.8 : **Comparative Land Use 2000, 2009)**

LAND USE	LAND AREA (in hectares)					
	YEAR 2000	% to TOTAL	YEAR 2009	% to TOTAL	DIFFRENCE	% to TOTAL
Residential	4,269.88	26.50%	4,517.36	28.04%	247.47	1.536%
Commercial	960.76	5.96%	1,026.58	6.37%	65.82	0.408%
Industrial	642.08	3.98%	642.57	3.99%	0.50	0.003%
Institutional	1,141.31	7.08%	1,154.10	7.16%	12.79	0.079%
Socialized Housing	16.81	0.10%	89.84	0.56%	73.03	0.453%
Open Space	238.05	1.48%	241.80	1.50%	3.76	0.023%
Recreational	60.81	0.38%	60.13	0.37%	(0.68)	-0.004%
Reservoir	,528.25	15.69%	,521.25	15.65%	7.00)	-0.043%
Informal Settlement	,137.77	7.06%	,084.47	6.73%	(53.31)	-0.331%
Military	221.06	1.37%	215.81	1.34%	(5.25)	-0.033%
Cemetery	86.56	0.54%	101.83	0.63%	15.27	0.095%
Utility	254.38	1.58%	268.86	1.67%	14.48	0.090%
Vacant	2,060.50	12.79%	1,926.13	11.95%	(134.37)	-0.834%
Road	2,349.94	14.58%	2,116.63	13.14%	(233.31)	-1.448%
Waterways	144.43	0.90%	145.22	0.90%	0.79	0.005%
TOTAL	**16,112.58**	**100.00%**	**16,112.58**	**100.00%**	**0.00**	**0.00%**

area under the informal settlers. This suggests that no substantial allocation of new land was given to low-income families. There was simply a change of tenure among some informal settlers through the community mortgage program. It can be concluded therefore that new residential land is being put in the open market.

(b) Another gainer is commercial land use. The increase in commercial hectarage comes mostly from the conversion of former industrial sites into mixed-use commercial-residential development. Because of the large parcellation common in industrial sites these sites are being put under high-rise construction. The other pattern observed in commercial space production is the development of extensive areas of vacant land. The mall-type commercial development is an inefficient way of utilizing valuable urban space.

(c) Institutional land use increased very slightly due to the increasing need for space for social services like schools and health centers This stingy allocation of institutional land no longer meets prescribed standards for various services whose standards are being compromised.

(d) The biggest loser in absolute hectarage is informal settlements. But this decrease is probably a positive development if there is a commensurate increase in the allocation for socialized housing, which is fortunately the case. Otherwise the decrease can be attributed to off-site relocation. Can the city sustain the policy of in-city relocation?

(e) Another loser is industrial land use. This is due to the phase out of manufacturing from the metropolis that started in the early 1980's. The loss of manufacturing from the city's landscape may be applauded for its effect on cleaner environment. But the local economy suffers from lack of diversity and the services sector alone may not be able to generate enough jobs for all job seekers. Almost complete reliance on the services sector creates a society of consumers. The challenge for the city leadership is how to retain and encourage investments in "clean" manufacturing to keep the city's economy essentially diversified.

2.5 Hazards. Vulnerability and Risk Assessment

The assessment presented in this section covers three hazards most commonly occurring in the city or with greatest threat and impacts in terms of

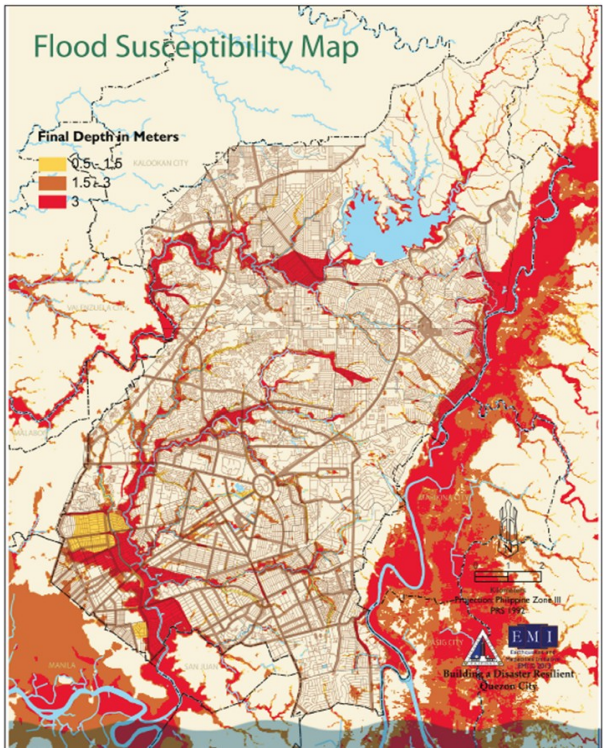

Fig 16: **QC Flood Susceptibility Map**

danger to human and physical aspects. These hazards are flood, earthquake and fire.

2.5.1 Flood Risk Assessment

The City Government entered into a Memorandum of Agreement with the Earthquake and Megacities Initiatives (EMI) for the joint undertaking of the "Building a Disaster Resilient Quezon City " Project. Among the outputs of the project are the Hazards, Vulnerability and Risk

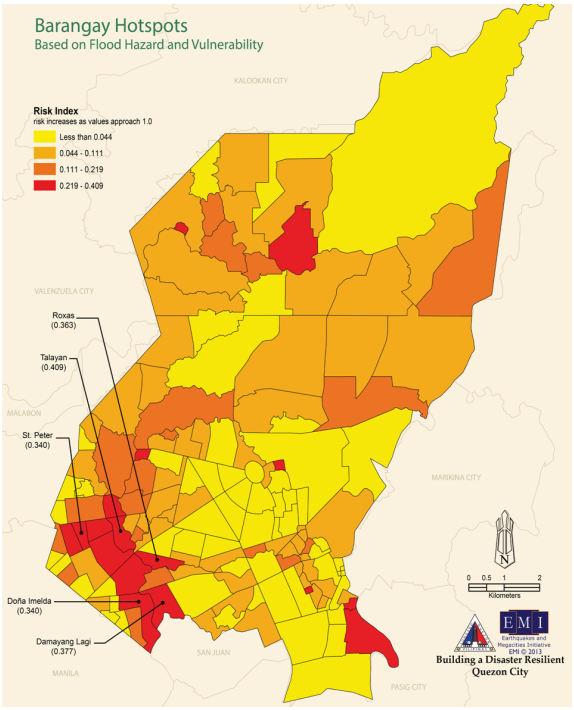

Fig 17 **QC Barangay Hotspots Map** (Based on Flood Hazard and Vulnerability)

Assessment (HVRA) Report and the Disaster Risk Reduction & Management Plan (DRRMP). Key findings contained in the HVRA Report include the following flood situation in the City:

Top five barangays to prioritize for flood earth impacts are Talayan, Damayang Lagi, Roxas, St. Peter, and Dona Imelda.

In addition to the above, the following barangays constitute a second tier for prioritizing emergency management planning and preparedness actions: These are Barangays Sto. Domingo (Matalahib), Tatalon, North Fairview, Bagumbayan, and Dioquino Zobel.

Table 2.9: **Top Five Barangays for each of the critical and high loss facilities**

Member	Top 5 Barangays
Hospitals and Healthcare Centers	Doña Imelda, DamayangLagi, Kalusugan, Central, Bagumbuhay
Emergency and Rescue Operation Centers	Masambong, N. S. Amoranto (GintongSilahis), Libis, San Antonio, MatandangBalara
High Loss Potential Facilities	Fairview, BagongLipunanngCrame, Bagumbayan, E. Rodriguez, Holy Spirit
Hazardous Facilities	Tatalon, Manresa, Bagumbayan, Sto. Domingo (Matalahib), Talayan
Major Roads	Pag-ibigsaNayon, Commonwealth, Sta. Monica, Capri, Duyan-duyan

Population affected by floods

- A total of 700,000 people are estimated to be affected in Quezon City. (16% in low susceptibility areas, 30% moderate flood susceptibility areas and 54% in high flood susceptibility areas).
- The top three Barangays that have greater than 80% within the high flood susceptibility area are Capri, Talayan and Katipunan.
- The JICA model estimates that climate change can increase the affected areas in Quezon City by 2050 by as much as 7%.

Casualties Caused by Floods

- It is estimated that 111 casualties in Quezon City will be caused by a 100- year flood.
- Areas which are in a high flood susceptibility zone (inundation depth greater than 200cm), are likely to encounter casualties 2.5 times greater than medium susceptibility areas (inundation depth between 50cm and 20cm) and 5 times greater than low susceptibility areas (inundation depth below 50cm)
- The largest number of casualties is expected to be in Batasan Hills, Tatalon, Sta Lucia and Bagong Silangan due to their higher population which are affected by high flood exposure levels.

- The top four barangays with casualties had more informal settlement buildings than average in Quezon City. This is also probably due to the many informal settlements located nearby river systems
- For every 1,500 informal settlement buildings, an average of 1 extra casualty is estimated to occur.
- 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 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

- The total economic loss resulting from this study comes out to be 319 million USD of which about 245 million USD is capital stock related.

Table 2.10: **Summary of Consequences of Floods to Sector Including Initial Recommendations to Reduce Consequences**

Core Elements	Consequences to Sector of Floods	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	Loss of lives & damage to properties Disruption of public services Lifeline Disruptions (Communication, water, power)	Provision of budget for livelihood (start-up budget for livelihood) Trainings for livelihood & income Additional rubber boat, generators and relief goods (food, medicine, clothes Provision of evacuation areas
Access to Income/ Services	Loss of lives and injuries Health and Sanitation Livelihood & Shelter Lifeline are damaged Unemployment Mobility and Accessibility	Identify relocation sites/evacuation centers Community-based trainings DRRM - First Aid Training Involve NGOs Budget Allocation Basic Training, using indigenous materials/resources Create livelihood programs for rehabilitation "work for food"
Emergency Management and First Responders		Declogging of canals/drainages/rivers Develop protocols on alert levels/ communication during inclement weather (between brgys and QCDRRMC) Relocation sites of ISF located along riverways/creeks Formulate contingency plan of barangay Enhancement training & capacity building of BERT Install CCTV & Flood markers to flood prone areas Ordinance for force evacuation Increase capacity through accredited community
Institutional and Land Use Administrators	Structural Damages Loss of lives, properties & livelihood Presence of informal settlers along rivers & creeks	Review & revision of CLUP & Zoning Ordinance Locate activities & functions in flood free areas Strict implementation of the water code (3-M creek easement)
Physical Resources	Water Contamination (waterways & potable water Waste Accumulation Damage to parks and wildlife	Strict monitoring of compliance of water companies Construction of retaining wall &desiltation of rivers Strict implementation of waste segregation policies IEC on proper waste segregation Desiltation& construction of retaining wall

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.
- More than 2,089 people were treated for bacterial infection in Manila and 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 in 2008 (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.

2.5.2 Earthquake Risk Assessment

The HVRA Report of "Building a Disaster Resilient Quezon City" Project dealt extensively on the risks, consequences, and impacts of a 7.2 magnitude earthquake generated from the movement of the West Valley Fault System which extends north of Montalban in western Rizal province and passes east of Metro Manila to the south, possibly as far as Tagaytay Ridge. It traverses the eastern boundary of Quezon City, particularly Barangays Bagong Silangan, Batasan Hills, Matandang Balara, Pansol, Blue Ridge B, St. Ignatius, Libis, White Plains, Bagumbayan and Ugong Norte.

The large-magnitude earthquake from the movement of the fault system is said to recur in the last 1400 years at the interval of 200-400 years. Based on this estimate, it is most likely that there will be a big earthquake within the period 2000-2058. The 2004 MMEIRS of JICA projects the occurrence of a magnitude 7.2

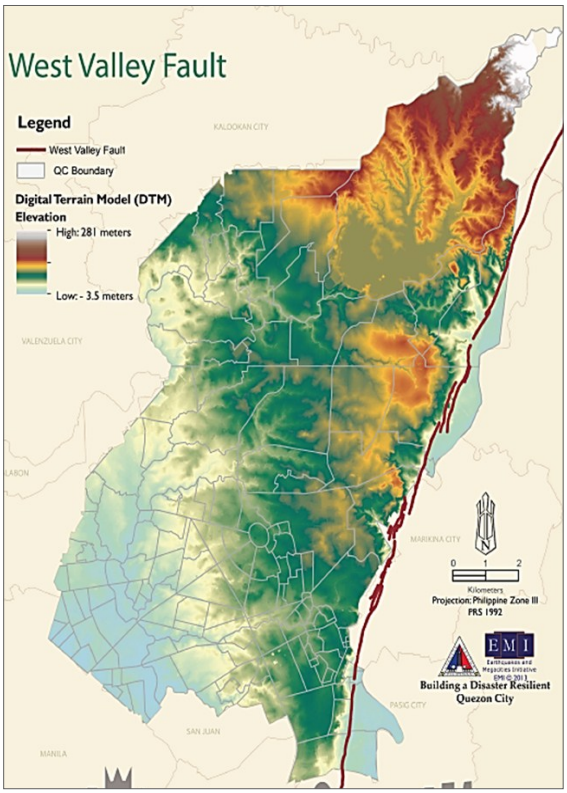

Fig. 18: **West Valley Fault Map :***Digital Terrain Model (DTM)*

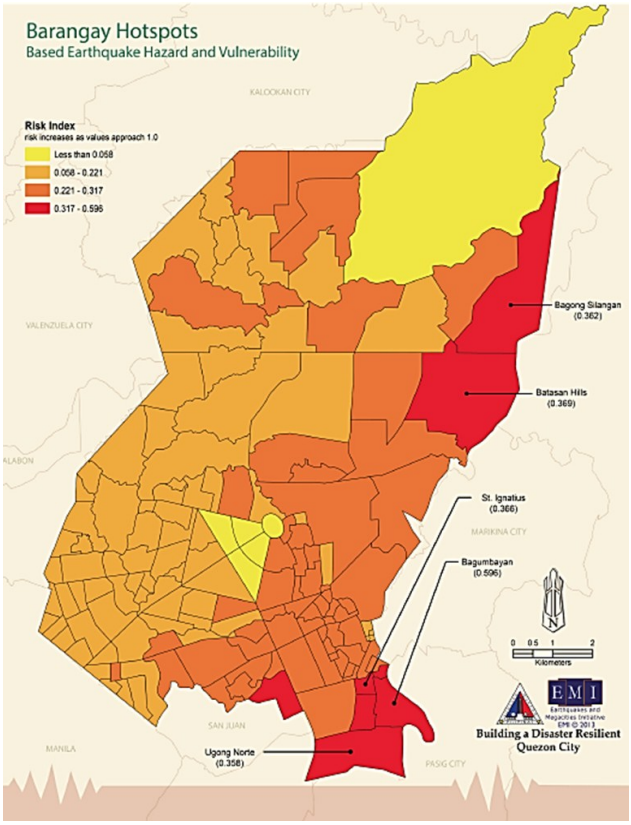

Fig. 19: **Barangay Hotspots Map (Based Earthquake Hazard & Vulnerability**

earthquake from the movement of the WVF System.

Top five barangays to prioritize for earthquake impacts are barangays Bagumbayan, St. Ignatius, Ugong Norte, BagongSilangan and Batasan Hills.

In addition to the above, the following Barangays constitute a second tier for prioritizing emergency management planning and preparedness actions: White Plains, Blue Ridge B, Kaligayahan, Libis, and Commonwealth.

Fire Following Impact

Based on Model 8 Scenario, a projected 4,800 buildings may be burnt in case of a 8 meter per second wind

Liquefaction Impact

Table 2.11: **Liquefaction-Prone Barangays**

Barangay	Liquefaction Potential
Bagumbayan	Relatively High
DamayangLagi	
Doña Imelda	
Kalusugan	
Libis	
Lourdes	
Mariana	
Mariblo	
MatandangBalara	
Roxas	
Santol	
Sienna	
St. Ignatius	
St. Peter	
Sta. Cruz	
Sto. Domingo (Matalahib)	
Talayan	
Tatalon	
White Plains	
Bagumbayan	Relatively Low
Ugong Norte	

Ground Motion Shaking Severity

- Barangays with strongest intensity of ground motion
  1. Bagumbayan (9.76)
  2. Ugong Norte (9.36)
  3. Batasan Hills (9.28)
  4. Libis (9.26)
  5. Bagong Silangan (9.25)

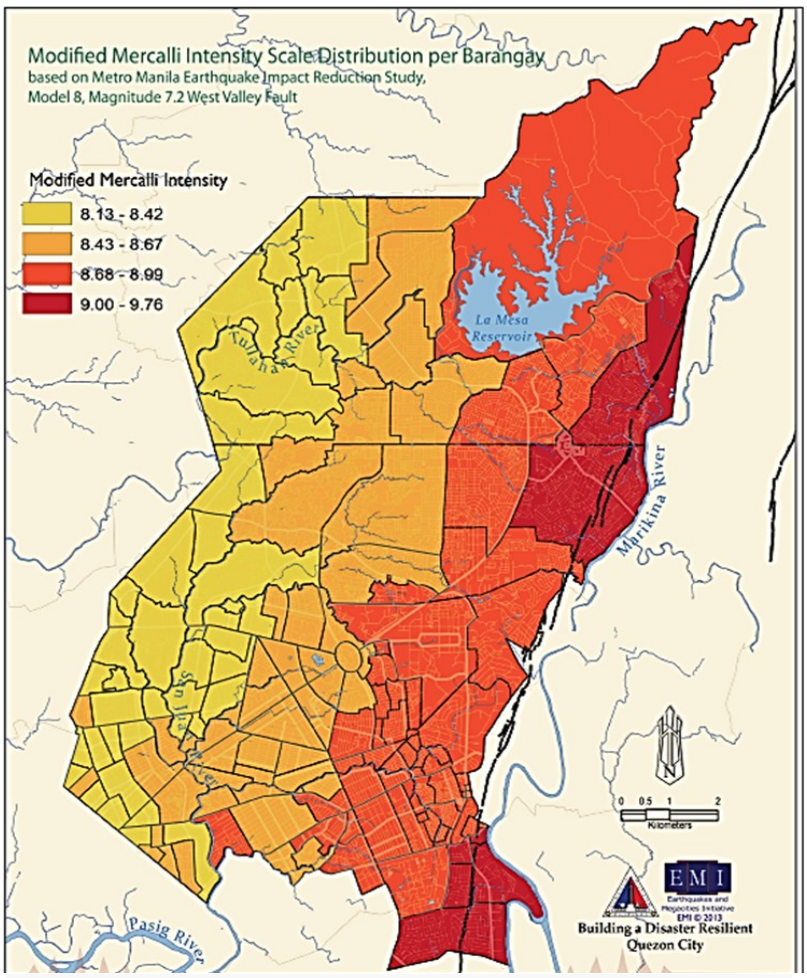

Fig 20 **Modified Mercalli Intensity Scale Distribution per Barangay**
(Based on Metro Manila Earthquake Impact Reduction Study)

- 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).
- The barangays that will suffer the most from buildings that will sustain partial damages are Batasan Hills (5,741), Commonwealth (5,198), Payatas (3,705), Holy Spirit (3,236), and Bagong Silangan (3,155).

- The barangays that will suffer most fatalities are Batasan Hills (1,557), Commonwealth (948), Bagong Silangan (878), Holy Spirit (680), and Matandang Balara (650).
- The barangays that will suffer the most injuries are Batasan Hills (4,324), Commonwealth (3,130), Tandang Sora (2,571), Bagong Silangan (2,442), and Holy Spirit (2,240).

Table 2.12: **Summary of Consequences of Floods to Sector Including Initial Recommendations to Reduce Consequences**

Core Elements	Consequences to Sector of Floods	Initial Recommendation
Population	Affected Estimated 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	• Loss of lives & damage to properties • Disruption of public services • Lifeline Disruptions *(Communication, water, power)*	• Provision of budget for livelihood (start-up budget for livelihood) • Trainings for livelihood & income • Additional rubber boat, generators and relief goods (food, medicine, clothes • Provision of evacuation areas
Access to Income/ Services	• Loss of lives and injuries • Health and Sanitation • Livelihood & Shelter • Lifeline are damaged • Unemployment • Mobility and Accessibility	• Identify relocation sites/evacuation centers • Community-based trainings DRRM - First Aid Training • Involve NGOs • Budget Allocation • Basic Training, using indigenous materials/resources • Create livelihood programs for rehabilitation “work for food”
Emergency Management and First Responders		• Declogging of canals/ drainages/ rivers • Develop protocols on alert levels/ communication during inclement weather (between brgys and QCDRRMC) • Relocation sites of ISF located along riverways/creeks • Formulate contingency plan of barangay • Enhancement training & capacity building of BERT • Install CCTV & Flood markers to flood prone areas • Ordinance for force evacuation • Increase capacity through accredited community
Institutional and Land Use Administrators	• Structural Damages • Loss of lives, properties & livelihood • Presence of informal settlers along rivers & creeks	• Review & revision of CLUP & Zoning Ordinance • Locate activities & functions in flood free areas • Strict implementation of the water code (3-M creek easement)
Physical Resources	• Water Contamination (waterways & potable water • Waste Accumulation • Damage to parks and wildlife	• Strict monitoring of compliance of water companies • Construction of retaining wall &desiltation of rivers • Strict implementation of waste segregation policies • IEC on proper waste segregation • Desiltation & construction of retaining wall

2.5.3 Fire Risk Assessment

Fire is perennial hazard and the most common occurrence in Quezon City. In 2009 and 2010, a total of 2,023 fire incidents happened in Quezon City with a total of P 327,340,800.00 cost of damages. It is believed that cost of damages of fire in five years could be more than the costs brought about by one major disaster like

Ondoy's occurring in the city in five years. While the incidents range from small to large-scale fire, the frequency or number of incidents in a year could not be ignored in terms of people affected, lives lost, properties destroyed, disruption in everyday activities, lost opportunities and other direct and indirect costs.

Table 2.13: **Consequences and Impacts of Fire**

CORE ELMENTS	CONSEQUENCES TO SECTOR	VULNERABLE AREAS/GROUPS	RECOMMENDATIONS
Physical landscape of the city	• Urban blight formation • Lifeline disruptions *(communication, water, power)* • Waste accumulation	• Informal settlements • Old housing structures and commercial establishments	• Implement fire prevention, preparedness and control programs • Strict implementation of the National Building Code • Strict implementation of the Zoning Ordinance • Acquire land for fire stations • Construct more fire stations • Provide at least two (2) fire trucks per barangay • Hire additional personnel/firefighters • Tap volunteer fire brigades • Train more fire fighters • Use of early fire detection technology • Install fire protection devices like fire sprinklers and operational smoke detectors in establishments • Mandate provision of fire extinguisher per household • Conduct public outreach campaigns to promote fire safety awareness • Provide temporary shelter for the displaced • Ensure that fire hydrants are operational • Conduct rapid response time of fire fighters • Draft of the Fire Hazard Profile and Mitigating Plan • Undertake relocation of ISF's
Population and social	• Loss of lives • Psychological damage and trauma especially to children and the elderly caused by a horrible experience and painful injuries • Extended exposure to smoke has impact on respiratory health • Temporary population displacement • Release of hazardous materials could create a public health emergency	• Highly-dense residential areas • Heavily populated and developed areas • Old housing structures • Areas where informal settlers are densely located • Elderly (65& older) and 14 years old and below since they are usually left at home	
Environment	• Smoke impact on air quality • Smoke will contribute to high concentration of greenhouse gases • Water pollution if fire is near waterways • Waste accumulation	• Waterways • Air	
Economic Activity	• Loss of business • Loss of property • Damage to infrastructure • Power outage • Increase of insurance claims • Loss of income and livelihood	• Areas with high concentration of commercial and industrial sites • Commercial and industrial establishments with materials that are volatile in nature	
Institutional	• Structural damages • Disruption of government services • Repair and rehabilitation cost		
Emergency Management and First Responders	• Loss of lives • Fire fighters at greater risk • Medical emergencies • Financial stress on fire departments		

Aside from being costly, the consequences/impacts of an urban fire are unpleasant, debilitating and even stupefying. A community's physical appearance is changed drastically after a fire. The unsightly wastes land pictures the incongruence of the fire ruins with the developed surroundings. The burnt debris, protruding posts, half-melted G.I. sheets, charred walls, soaked grounds and garbage mounts mar and violate the community's landscape.

The loss of a loved one is very painful to the bereaved family yet pain does not stop with the loss. The traumatic experience of a fire leaves many emotionally devastated and mentally crippled. Studies showed that children suffer most in this respect. Aside from the grotesque stress, injured victims especially those with burns have to endure the torturing pain caused by their injury. People exposed to the smoke could develop respiratory problems.

The environment is not spared. Smoke is released in the air and contributes to the accumulation of greenhouse gases in the atmosphere. Waste and run-offs may pollute nearby rivers and creeks.

The government measures are likewise affected since it is morally and legally imperative to provide the necessary assistance and services to the victims. The emergency means the allocation of financial, material and human resources which could have been otherwise spent to development projects. The relief and medical services, relocation and provision of temporary shelter to displaced families and repair and rehabilitation of utilities and infrastructures are all costly. In instances where government buildings like schools, health centers, barangay halls and offices are affected, the provision of services to the public is interrupted.

Table 2.12 shows other consequences and impacts of fire to a community

2.5.4 Increased Temperature

Climate Change has different definitions. According to World Bank, Climate Change refers to a statistically significant variation in the average condition of climate or its variability that persists for decades or longer, caused by both natural processes and human impacts such as greenhouse gas emissions. The United Nation Habitat attribute it directly or indirectly to hu-

Table 2.14: **Quezon City-Wide Weather and Climate Change Summary**

Column 1	Column 2		Column 3
	Historical Trends, Observed Conditions		
Climate Change Driver/Hazard	**Local / Regional Weather Data (a)**	**Stakeholder Observations (b)**	**Climate Model Scenario Projections**
Extreme Rainfall due to the occurrence/passage of Tropical Cyclone, Habagat\ and Thunderstorm Flooding	Recorded: Highest Rainfall Quantity =455 mm (Ondoy) Increasing intensity and frequency of intense rainfall as shown in the observed historical data Increases in the number of days greater than 200 mm	Loss of 83 lives;21 went missing and with a total of 6,485 families affected during typhoon Ondoy in 2009 Loss of 9 lives and with a total of 36,234 families affected during the Habagat in 2012 Increase of vector-type diseases/flood caused diseases 1. Dengue 2. Chinkunguniya 3. Leptospirosis La Mesa Dam reaching its critical level More incidents of rivers overflowing. Insufficient drainage system to capacitate rain water. Barangays are still suffering from flooding Increasing number of families and individuals are affected. Happens in the 3rd and fourth quarters when typhoons are stronger and more devastating	An increase in rainfall in 2020 and 2050 during the wet season (June, July and August) Heavy daily rainfall events will continue to become frequent in 2020 and 2050
Increase in average Temperature Drier summer	Increasing trend in the observed temperature for the last 52 years (1961-2013) Annual Mean Temperature = 1.46 °C Increase in the number of days greater than 35 °C Science Garden Station, Quezon City	More hotter days being observed and warmer night time temperatures Less colder days during the months of December, January and February Increased energy demands for cooling	Projected Change in Monthly Mean Temperature ranged from 0.70 ° C to 1.2 °C in 2020 and from 1.7 °C to 2.4 °C in 2050 Highest increase during the month of May Projected Change in Monthly Mean Maximum Temperature in 2020 is from 0.7 °C to 1.4 °C and 1.6 °C to 2.7 °C in 2050 Highest increase is in the month of May Projected Change in Monthly Mean Minimum Temperature in 2020 is from 0.7 °C to 1.1 °C and 1.8 °C to 2.2 °C in 2050
Tropical Cyclone ● Increasing Temperature	20 tropical cyclone directly crossing Metro Manila Area annually from 1948-2013	Most tropical cyclone directly crossing Metro Manila occurs during the month of July and October 65% of tropical cyclone crossing Metro Manila is of typhoon intensity	Global projections indicate that increases in sea surface temperature will mean more intense tropical cyclones in the future.
Tropical Cyclone ● Strong Winds	Increasing frequency of destructive tropical cyclone during El Nino events greater than 150 kph	Damaged infrastructures during Typhoon Milenyo in 2006	Global projections indicate that increases in sea surface temperature will mean more tropical cyclones with stronger peak winds in the future
Drought Increasing Temperature Decrease in precipitation due to climate variability/change	Increasing frequency of El Nino events	Water supply shortage La Mesa Dam reaching its critical level/reduced reservoir level Water level reaches critical level Decrease on food production	Projected change in temperature indicate that drier season will become drier in QC

man activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods. The Climate Change Commission refers to it as a change in climate that can be identified by changes in the mean and/or variability of its properties and that persists for an extended period typically decades or longer, whether due to natural variability or as a result of human activity.

Climate change has four major impacts- temperature change, rainfall change, sea level rise and the increase or frequency in extreme events (rainfall and temperature). Along with these impacts are the hazards associated with it. The hazards noted were based on occurrence felt and experienced in the City. These are the hydro-meteorological hazards also identified by DOST-PAG-ASA occurring in the country and the city as well.

Temperature change could 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 matrix attached was one of the workshop outputs generated during the Workshop on Vulnerability and Adaptation Assessment in the Preparation for Local Climate Change Action Plan and Updating of Comprehensive Development Plan sponsored by the Department of the Interior and Local Government (DILG) and UN Habitat with the assistance of the DOST-PAG-ASA and other national agencies.

3 THE CITY'S VISION AND THE NATIONAL PLANNING GOALS

One visible step with which Quezon City seeks to demonstrate its adherence to the national policy of making local governments effective partners in the attainment of national goals is to align its vision to the national physical planning goals. These goals were adopted by the National Land Use Committee to guide physical planning at all levels from the local to the national.

This chapter restates the new Vision of Quezon City and then proceeds to determine how each descriptor and success indicator in the vision relates to one or more of the national physical planning goals.

3.1 The City's Vision

Quezon City is unique and incomparable in many ways. Gifted with the biggest land area among the cities in Metro Manila, it holds the greatest potential for more diverse and better-planned urban development. It has also the widest expanse of parks and open spaces that provides a natural setting in an urban environment. The city is likewise home to major hospitals and medical centers, all the national media and entertainment networks, top-ranked institutions of higher learning, and key national government agencies and offices. Quezon City has now the fastest growing ICT Industry being the location of choice of business process outsourcing firms. The City's population is generally young, educated and employable and is the biggest market base among all cities in the country. A World Bank study noted that "the center of gravity of all commercial activities in the coming years" is in Quezon City.

Given its many assets and comparative advantages, therefore, Quezon City is poised to play a major role in the future developments beyond its borders as:

- The Green Lung of Metro Manila
- The Knowledge Industry Capital of the Country
- The Health and Wellness Center in Asia

The inhabitants of Quezon City likewise perceive their city as a high **Quality Community** for living, working and playing. They dream of their city as affording them a high quality of living, a more prosperous economy, a safer and more livable cityscape that inspires a good sense of place and civic pride, and a well-governed constituency. Internally, Quezon City, is envisioned to be a high quality community, a highly desirable place that is ever blessed with :

- A healthy, educated and secure citizenry
- A strong, diverse and vibrant economy
- A well-linked, balanced and attractive cityscape
- A clean, green and resilient environment
- A dynamic, sound and participative governance

3.2 The Vision as it Relates to the National Physical Planning Goals

Both inward and outward components of the city's vision are anchored on and supportive of the national physical planning goals as adopted by the National Land Use Committee (NLUC) namely:

- *To effect rational population distribution.*

This goal can have different interpretations according to geopolitical jurisdiction. At the national level, the settlement policy is that of "national dispersion through regional concentration". This is achieved by preventing over-concentration of population and development investments in the national capital and promoting the growth of Cebu and Davao cities to serve as counter-magnets to Metro Manila. At the level of regions and provinces, the goal of rational population distribution is attained through a hierarchical ordering of urban growth centers. A hierarchy of settlements is found to be the most efficient way of cascading information and development impulses. At the city or municipal level, this goal can be achieved through a well thought out spatial strategy or urban form. A

creative urban form is one in which human settlements are located in safe hazard-free areas and are adequately serviced.

- *To ensure access of population to basic social services and economic opportunities.*

This is a function of proper land use planning and transport management. The location of settlements relative to production areas and the adequacy of infrastructure support will determine whether the population will be accorded physical access to essential social and economic services. The simple approach to ensuring physical access is to either bring the service to where the people are or to assist the people to come where the service is located. It also involves locating services and infrastructure in hazard-free areas to enable the people to avail themselves of adequate, reliable services uninterrupted by hazard events.

- *To promote sustainable utilization of resources.*

This goal advocates judicious utilization of present resources and the conscious avoidance of all forms of waste so that the benefits of future users of the same resources will be undiminished. Applied to extracted natural resources, the principle of sustainability demands that the rate of extraction should be such that it will not lead to depletion of the resource thereby depriving future generations of the same beneficial use. Also, if manufacturing or processing of the resource is necessary care must be taken that the process itself will not be the source of nuisance or create hazards that will tend to negate the benefits of resource use.

- *To protect the integrity of the environment.*

This goal promotes the view that protected areas are a legitimate category of land use which must be identified and set aside beforehand and not simply treated as a residual after allocating land for other purposes. Protecting the integrity of the environment also advocates a change in the age- old belief that man is created to have dominion over nature into one in which man is only a steward of nature. Applied in urban planning and management, this goal calls for the maintenance at all times of the proper balance between the built and the unbuilt environment for the mutual benefit of the human population and the natural environment.

These goals roughly correspond to the four land use policy areas of settlement, infrastructure, production and protection which were also adopted by the NLUC to become the basic content of land use plans at all levels.

3.2.1 *Roles of Quezon City Beyond Its Borders:*

The City as the Green Lung of the Metropolis

The city is endowed with the most extensive expanse of open space and greenery in the metropolis. Contributing to this network of green areas are the large parks (*the La Mesa Reservoir and its Watershed, the Quezon Memorial Circle, and the Ninoy Aquino Parks & Wildlife),* the greeneries and major recreational areas of huge university campuses and major institutions of higher learning, as well as various linear parks of regional importance *(easements of power transmission lines, center traffic islands, tree-lined boulevards and sidewalks, and the MWSS aqueduct right of way).* The said land resources are meant to be preserved and safeguarded to ensure environmental sustainability. All these unique features of Quezon City which it envisions to perpetuate directly support the fourth national goal to protect the integrity of the environment.

The Country's Knowledge Industry Capital

Quezon City is an education epicenter as it is home to leading universities and academic institutions of the country. In addition, the city has been cited as among the top emerging global outsourcing cities, an advantage it has attained in the Information and Communication Technology (ICT) Industry . Quezon City is also known as the center of media operations or home to all national television and movie production outfits as well as the site of university–based facilities for visual and performing arts.

These existing advantages are to be expanded and the quality of urban services is to be upgraded to national or international standards. These initiatives will help provide the population access to basic social services and economic

opportunities. By seeking to achieve and maintain its role as the knowledge industry capital, the city will inevitably increase its economic production and provide employment to a substantial portion of its labor force. This component of the city's vision is directly supportive of the second and third goals of NLUC.

Healthcare and Wellness Center in Asia

Quezon City is fast evolving as the health and wellness tourism center of the Philippines, it being host to the most number of hospitals with the largest bed capacity, complemented by health clinics, spas, physical fitness centers, child care and development companies, care giving schools, laboratories, medical transcription firms, and other wellness facilities.

The city has poised itself to be the center in the area of Health and Wellness which shall increase job opportunities as well as goods and services with high value that would further boost the city's economy. As health and wellness is now in the forefront of global consciousness, demand for this type of service is on the rise. The realization of this component of the vision will surely ensure access of the population to basic social services and economic opportunities

3.2.2 *Quezon City as a Desirable Human Settlement*

The desired characteristics of the city as a place to live, work and play (inward desired role) are expressed in the following: a high Quality Community, a highly desirable place ever blessed with –

- **A healthy, educated and secure citizenry** *(Desired Qualities of the Citizenry)*
- **A strong, diverse and vibrant economy (***Desired Character of the City's Economy)*
- **A well-linked, balanced and attractive cityscape** *(Desired Character of Built Environment)*
- **A clean, green and resilient environment** *(Desired Quality of the Environment)*
- **A dynamic, sound and participative governance** *(Desired quality of Local Governance)*

The descriptors of desired qualities of the local population, the local economy, the natural environment, the built environment, and the institutions of local governance have success indicators that are likewise supportive of and consistent with the NLUC physical planning goals. This inward-looking component of the city's vision directly or indirectly addresses the national goals. A brief discussion of the specific ways in which each of the sectoral descriptors and success indicators relate to the national goals is given below. The line-by-line matching of success indicators and the four national goals is shown in *Annex 2.*

Social Sector

The aspiration to achieve a healthy, educated and secure citizenry bears direct relationship to the national physical planning goal to ensure access to social services and economic opportunities. In addition, the descriptors "secure" and "healthy" with corresponding success indicators like "hazard-free settlements", "decent and affordable housing for all", "uncongested neighborhoods", and "informal settlements assured of tenure on land and dwellings" particularly support the national goal of effecting a rational distribution of the population.

Economic Sector

The desire for a diversified, strong and vibrant economy geared towards enhancing the city's competitiveness as well as creating an enabling environment for investments in the city clearly supports the national goal to ensure access to social and economic opportunities. Indirectly, this aspect of the city's vision contributes to the goal of rational distribution of the population. In specific terms, the success indicators under the descriptor "diverse" which directly support the first two national goals are the following:

- World class facilities for entertainment, sports and performing arts established
- Ideal sites for both Services and Industry sectors provided
- Quezon City as a leading tourist destination in Metro Manila catering to various types of tourists, local and foreign.

Infrastructure Sector

The city's vision of a built environment that is well-linked, balanced and attractive is strongly supportive of the national goal to ensure access to social and economic opportunities. Also, a number of success indicators directly contribute to the fourth national goal to protect the integrity of the environment. The success indicators that support both the second and the fourth goals are:

Under the descriptor *balanced*,

- Built up areas are integrated into the city's open spaces
- Prescribed standards on open space complied with
- Urban development distributed in self-contained communities

Under the descriptor *attractive*,

- Open spaces within the built up areas are greened and developed
- The urban landscape is enhanced by an interlinked system of parks

At least one success indicator under the descriptor attractive has direct contribution to the national goal to effect a rational distribution of the population: Blighted areas are redeveloped.

Environment Sector

More than any city or municipality in Metro Manila, Quezon City has the largest parks and open space that provide the inhabitants access to recreational opportunities and an environment that is conducive to pleasant urban living. The desire for a clean, green and pleasant environment addresses the second *(access to social and economic opportunities)* and the fourth *(integrity of the environment maintained)* goals of National Physical Planning. It can also be inferred that a clean, green and pleasant city environment minimizes hazards to life and maximizes well-being of the inhabitants. This indirectly leads to the realization of the first goal *(rational distribution of the population).*

Institutional Sector

Effective and efficient administration is characterized by a dynamic, sound and participative governance. These three descriptors support the third *(Sustainable Utilization of Resources)* of the National Physical Planning Goals.

4 THE LONG TERM SPATIAL STRATEGY

At the city or municipal level the spatial strategy is the conceptual guide to the distribution of population and economic activities over the municipal territory in order to achieve the goals of physical planning discussed in the preceding chapter. In the current CLUP the chosen spatial strategy is to develop a number of growth nodes or centers scattered strategically around the city's territorial jurisdiction. In this revised edition of the CLUP the same multi-centered growth strategy is adopted, with important modifications.

4.1 The Existing Spatial Strategy

The CLUP 2000 adopted the multi-nodal growth strategy as the long-term spatial strategy to rationally disperse and distribute growth in Quezon City. It identified, but without defining specific boundaries or limits, the Areas of Growth or Influence which are either strategically situated exhibiting economic potentials, have existing commercial and industrial establishments and services contributing to economic growth and providing employment to a big portion of the population, have significant environmental features contributing to ecological balance, or have huge population concentration that represents a large consumer market. A large population also has a stronger probability to produce entrepreneurship and at the very least provide trainable manpower to supply the requirements of existing and emerging industries. In the succeeding discussions the performance and current situation of each of the identified growth areas are briefly reviewed.

North Triangle Business District

The mixed-use development that is intended for this area started with the establishment of the MRT Line 3 Project depot and station around the corner of EDSA and North Avenue. Now, the huge Trinoma Mall of AyalaLand Development Corporation is an added establishment and has become a popular destination of shoppers and entertainment seekers in Metro Manila. Ayala Land which has entered into a joint venture agreement with the National Housing Authority which owns the property will soon proceed with its expansion project to include businesses, residences and a hotel. The AyalaLand initiative has caught the attention of potential investors who have expressed interest to take part in the development of the North and East Triangles. Eton Properties, another big player, has put up its own mixed-use project at the corner of EDSA and Quezon Avenue and is expected to expand its investment in due time. The major challenge facing the development of the strategically-placed triangles is the existence of big colonies of informal settlers there.

Eastwood Cyberpark

Eastwood Cyberpark consisting of 16 ha of land area along E. Rodriguez Jr. Avenue in the Bagumbayan-Ugong Norte area is said to be the country's first information technology hub and considered as one of the city's tourism districts. It is now fully developed with high-rise condominium buildings hosting information technology-based services and industries incorporated with residential, recreation, business and commercial activities. A few low-rise buildings are intended for ancillary and support services like restaurants and entertainment. This mixed-use area which is being promoted as a "live-work-play enclave" is, however, very compact and dense and is suffering from its own traffic problems. It could not expand horizontally because of E. Rodriguez Jr. Avenue and Marikina River serving as its western and eastern boundaries, respectively. Laterally, it could not expand also because all properties there are private whose owners have plans of their own. Being located along a major arterial, its ingress and egress are limited. In spite of this limitation however, the vicinity of the Cyberpark, which used to be one of the traditional industrial zones in the city is steadily transforming into a commercial area. Because of this trend, growth is beginning to extend

beyond the boundaries of the Eastwood Cyberpark and will eventually encompass the contiguous areas from Libis Creek down to the city boundary at Ortigas Avenue.

Cubao Central Business District

The Cubao Central Business District is traditionally the Araneta Center itself. The renewal program for the Araneta Center and the convergence of the MRT Line 3 and LRT Line 2 at the intersection of EDSA and Aurora Avenue are expected to catalyze development and influence the renewal of the immediately surrounding areas. However the pace of development catching on is rather slow and has not brought in higher- level services aside from those contained in the Araneta Center. This is mainly attributed to the pattern of small residential land parcellation prevailing in the vicinity of the center which can not be easily consolidated for large-scale, commercially-viable development projects. Nevertheless, Cubao will remain an important growth center by virtue of its strategic location and for its commercial, retail and inter-modal transport hub services.

Lagro-Fairview Commercial Sub-center

The CLUP 2000 pictures the node at the corner of Quirino Avenue and Regalado Avenue as the Lagro-Fairview Commercial Sub-Center. This Area of Growth came to public notice after the establishment of the SM-Fairview and the Robinson's Malls along opposite sides of Quirino Avenue; although, the area comprising the Sacred Heart Market and the corner of Quirino Avenue and Ascension Street in Lagro has long been existing as a minor commercial area and commuter-transfer point for Lagro, North Caloocan and Bulacan residents. Now, SM-Fairview and Robinson's shopping malls cum call centers are serving as important transport terminals for commuters from the earlier-mentioned places and also from Novaliches, and Fairview areas. SM has apportioned at the back of the mall a big portion of its property facing Mindanao and Regalado Avenues for its business center project.

The Jacinto Steel, which, for a long time was the lone landmark in the area, has partially phased-out, maintaining only the warehouses and the largely vacant land with a radio transmission tower on the northern side of Quirino Avenue. The Redwoods condominium project of DMCI is now ongoing construction between the vacant lot and the warehouses. There is another big vacant land going to Sacred Heart Village and Lagro.

With the MRT Line 7 planned to pass through Regalado Avenue and turning right to Quirino Avenue, this triangular and contiguous area starting from the SM and Robinson's Mall projects, covering the vacant lands north and south of Quirino Avenue and north of Mindanao Avenue going westward up to the intersection of the said two avenues will most likely absorb big-scale developments and key service industries with high impact on the economy. The Lagro-Fairview area may grow from a sub-center to a major growth center in the intermediate future.

The Two National Government Centers (NGC's)

The first NGC (NGC I) was originally carved out of the central park comprising the North and East Triangles and the area surrounding the Quezon Memorial Circle. Many government institutions were actually established but portions of the triangles remained largely unoccupied over the years until informal settlers came in and this type of spontaneous urban development intervened on previously set priorities. New demands brought about by population increase and economic growth emerged, influencing the view and decision on the use of the land in a very prime location in the city. Parts of the NGC I have consequently been excluded from the operation of the NGC to make them available for mixed-use development. The development of the entire NGC I forms part of the Master Plan for a Central Business District. Actually, the development has started with the establishment of the MRT 3 Depot and Trinoma and the mixed-use development project of AyalaLand at the North Triangle and the Eton Properties Inc. development at the East Triangle.

The second NGC (NGC II) is located along both sides of Commonwealth Avenue straddling portions

of Barangays Commonwealth, Payatas, Batasan Hills and Holy Spirit, with the biggest portion under the jurisdiction of Barangay Commonwealth. The few institutions established there include the House of Representatives (Batasang Pambansa), Department of Social Welfare and Development , Civil Service Commission, Commission on Audit, Sandiganbayan, and the Electoral Tribunal of the House of Representatives. Many offices of the three branches of government were intended to be located at the NGC II but for reasons like lack of funds and changing priorities and preferences, the offices were not constructed. The huge tracks of vacant lands attracted droves of migrants and settlers mostly the poor from different parts of the country to a magnitude that could no longer be controlled and managed. The urban poor constitute the biggest share of the housing problem especially in Metro Manila and since NGC II was the biggest colony of informal settlers in the country, it attracted the attention of the newly installed Cory Aquino government then. President Corazon Aquino issued an executive order setting aside some 150 hectares of land at the NGC II West for socialized housing. When President Fidel Ramos took over the presidency, he declared the NGC II East open for mixed-use development to include institutional, residential and commercial uses.

NGC II at present is one giant community of the urban poor that is much bigger than some Metro Manila cities both in terms of land and population. It has become an important marketplace and transport terminal for people coming not only from the whole NGC II area, Payatas and Bagong Silangan but also those from Marikina, San Mateo and E. Rodriguez.

Balintawak-Novaliches Industrial Area

Balintawak and Novaliches are the traditional industrial zones of Quezon City which used to be a major place of employment for many residents. Industries that rose in the area included manufacturing plants that were pollutive and hazardous. When the policy to disperse growth and remove these types of industries in Metro Manila was implemented, many industries phased out and relocated outside of QC.

The advancement in science and technology likewise contributed to rendering some industries obsolete in systems and processes and forcing them to close shop due to strong competition and changing nature of products and services. The closed-down factories and plants have turned the area into blight. A few of the abandoned factories have since been converted to more economically viable use like commercial establishments.

Balintawak and Novaliches straddle the gateway to the north and provide the essential link and services to the production and growth areas of central and northern Luzon. Renewal of these areas can reverse the blight and inject vibrancy to its economic fiber.

Payatas Special Development Area

The city government, in the past nine years, has put in tremendous amount of infrastructural and social investments in the Payatas area resulting in marked improvements in access and mobility, health, sanitation and environmental hygiene among the barangays of Payatas, Bagong Silangan, and Commonwealth. Many new roads were opened and existing ones paved making hard-to-reach communities accessible. Moreover, health and educational facilities were built improving the well-being of the residents. Community-based housing projects were implemented giving shelter security to informal settlers. Most of all, the dumpsite and its vicinity were improved making the Payatas Disposal Facility more sanitary and safe and a model of good environmental practices. The disposal facility has been closed and is undergoing post closure maintenance and management. It is restricted to development and kept as green open space and is being connected to the Green Lung Network. The Payatas area still has vacant lands that are potential socialized housing sites.

La Mea Dam Reservation Area

The La Mesa Watershed is the largest component of the city's Green Lung network and plays a vital role in cleaning the air people breathe. This nature reserve is unique in Metro Manila and its forest is home to numerous species of flora and fauna, some of which are categorized as threatened, endangered or critically-endangered. It is a favorite destination

for nature lovers and a pleasant place for relaxation and recreation. The collaborative efforts of the city government, MWSS and its two concessionaires, DENR, and the private sector particularly the Bantay Kalikasan Foundation of ABS-CBN have resulted in the rehabilitation and development of the La Mesa Reservation area. Comprising about 16% of the total land area of the city, the reservation should be perpetually preserved and protected to ensure the integrity of the city's environment.

4.2 The New Spatial Strategy

As gleaned from the preceding discussion, the existing Areas of Growth or Influence display varying degrees of contribution to the overall growth of the city. The multi-centered growth strategy remains sound in its basic conception and purpose, hence it is retained in this Plan.

To develop several strategically situated areas that will spatially distribute growth in an urban center that is as huge as Quezon City is an approach that has not lost its justification. The growth centers will be accorded priority in development as they are expected to share and spread growth to their neighboring non-growth areas in the process.

Some of the existing growth areas may not develop in the pace and intensity expected of them but they are still important due to their special character and requirements. Due to the actual and emerging changes in the character and functions of these growth areas, some expansion, redelineation or regrouping has become necessary. The modifications on the multi-centered growth strategy in this revised CLUP are summarized as follows:

(a) *Novaliches-Lagro* is now treated as a growth center in its own right due to the traditional central place function of Novaliches and the emerging one of Lagro as the market center not only for northern QC but also for the northern part of Caloocan City and San Jose del Monte City and the southern municipalities of Bulacan province. Strengthening this function, will contribute to inflow of capital into QC and increase its gross domestic product.

(b) Balintawak has been expanded to include Munoz to form the Balintawak-Munoz growth area. This combines the food terminal function of Cloverleaf and Munoz markets for the northern portion of Metro Manila. The traditional industrial function of Balintawak could morph into new forms of processing such as those of processing and packaging of fresh agricultural products for more sophisticated mall-going urban consumers. Also, the recent completion of the light rail connection between MRT 3 and LRT 1 and the location of train stations at Balintawak Cloverleaf and in Munoz has made the Balintawak area an ideal place for locating the central depot for MRT 3 which has to be moved out from its present location in the North Triangle. A possible related use of the Balintawak area near the Cloverleaf LRT station is that of a consolidated bus terminal for north-bound provincial buses which have to be moved out of their present locations along EDSA in Cubao.

(c)T*he La Mesa Dam Watershed Forest Park* is no longer considered a growth area for the very obvious reason that it must be conserved and protected from intensive human activities. Together with the parks and green spaces forming the "Green Lung" Network, it is treated as Environment Protection Area (EPA).

(d) *The NGC II Growth Center* is now limited to the eastern side of Commonwealth Avenue and is renamed the Batasan-NGC Growth Center. The western side of NGC II is predominantly residential in character, hence it may not qualify as a growth center, per se. In contrast, the eastern side, besides the predominantly institutional character of the area, also exhibits a reasonable mix of central functions that cater to the needs of the nearby communities as well as those of far-flung municipalities of Rizal and Bulacan provinces. The Batasan-NGC Growth Center is already covered by a Presidential proclamation as a mixed-use development area.

(e) *Payatas* is likewise not considered a growth area but a special development area in this revised CLUP. In spite of recent successes by the city government in properly managing the dumpsite, the precautionary principle dictates that no intensive permanent developments should be attempted on and around the area in the immediate to intermediate future. Even if the dumpsite is finally closed down, it is not known for certain how much flammable gas lays trapped beneath the thick layers of garbage that accumulated for decades.

(f) *The Eastwood Cyberpark* is no longer seen as a growth center in this edition of the CLUP on account of built-in site limitations. On one hand, access to the area is limited by the presence of the major arterial, C-5, and the Marikina River on the other side. On the other hand, the limited area of expansion is further constrained by the potential hazard of liquefaction as the area lies along a major meander of the Marikina River. Despite the earlier aggressive intensive development of Eastwood City on the Libis side, future investments in the southern portion in barangay Bagumbayan will be limited to mixed use, largely residential projects and the future services will increasingly be designed to cater to the needs of the local residents.

(g) The creation of the *CBD-Knowledge Community District* will showcase the realization of the new vision for Quezon City as the green lung of Metro Manila, the health and wellness center, and the knowledge industry capital of the country. This super-district embraces the CBD-in-the making, the NGC I, all highly specialized hospitals and wellness facilities, the home studios of national radio and television and entertainment outfits, the campuses of the top-ranked universities of UP, Ateneo and Miriam College, and within these campuses, science research and technology incubation institutes, among others. The area has also the highest density of local, national and international civil society organizations which maintain their home-office headquarters in the high-end residential subdivisions of UP Village, Teachers Village, and Xavierville. Within this super-district the City intends to demonstrate the capabilities and explore the possibilities of its enormous intellectual capital. By establishing strong links with the knowledge institutions, the city and its constituents can lay priority claim to the benefits in the use of new and innovative products and processes that these institutions generate. The CBD-Knowledge Community District is, therefore, envisioned to become the venue for demonstrating the City's efforts to be at the forefront of moves to adopt green governance, to use and disseminate innovative tools and techniques in all fields of human endeavor, and to promote the full flowering of the arts and sciences nationwide.

(h)The *Cubao Growth Center* is retained with minimal modification from the current CLUP. But there are important new proposals to strengthen its traditional CBD function and to take on emerging ones.

For the final consideration of this edition of the CLUP are the following growth centers:

(a) The CBD-Knowledge Community District
(b) Cubao Growth Center
(c) NGC-Batasan Growth Center
(d) Novaliches-Lagro Growth Area
(e) Balintawak-Munoz Growth Center

This comprehensive land use plan is a detailed elaboration of the spatial strategy of multiple growth centers as described in the preceding chapter. The Plan consists of four main parts, spread in four chapters. Chapter 5 is devoted to the growth centers of which there are five. Chapter 6 deals with the interstitial areas, the "non-growth" areas lying between the growth centers. Chapter 7 is devoted to the network of open spaces which constitutes the protected areas which must be kept unbuilt at all times. The circulation network that ties all the areas together and serves as the skeletal framework for guiding the overall physical growth of the city is spelled out in Chapter 8.

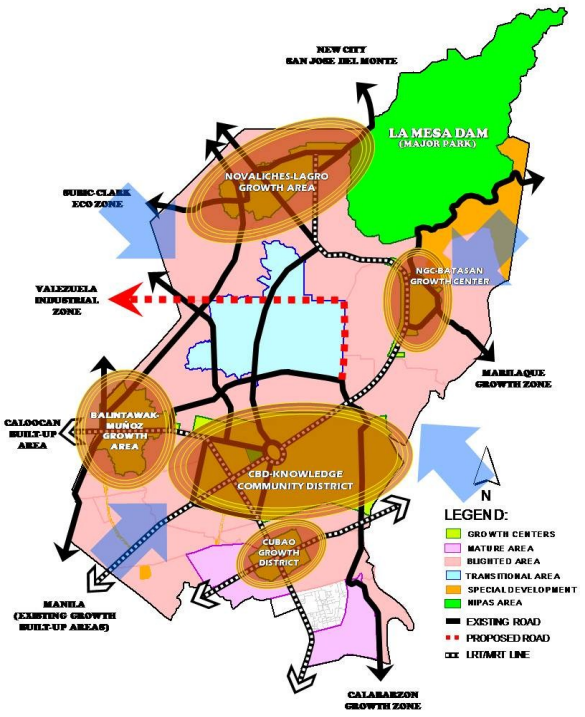

Fig. 21: **Mutli-Centered Growth Areas (Concept Map)**

5 GROWTH CENTERS

Growth centers or growth areas are special points of interest in a city because of their unique or distinctive character. They owe their distinctive physical growth characteristics to the more-than-usual infusion of public and private investments that have accumulated over the years. But such a distinction is superficial. In the real sense of the word, growth centers are so called because they are *central places,* that is, they perform functions or offer services patronized by a wide-ranging clientele that extends beyond their immediate environs. In the case of Quezon City, the growth centers service not only their immediate surroundings but also the entire city and even the metropolitan population. This is the main reason for identifying and delineating the five (5) growth areas, namely, the CBD-Knowledge Community District, the Cubao Growth Center, the NGC-Batasan Growth Center, the Novaliches-Lagro Growth Area, and the Balintawak-Munoz Growth Area.

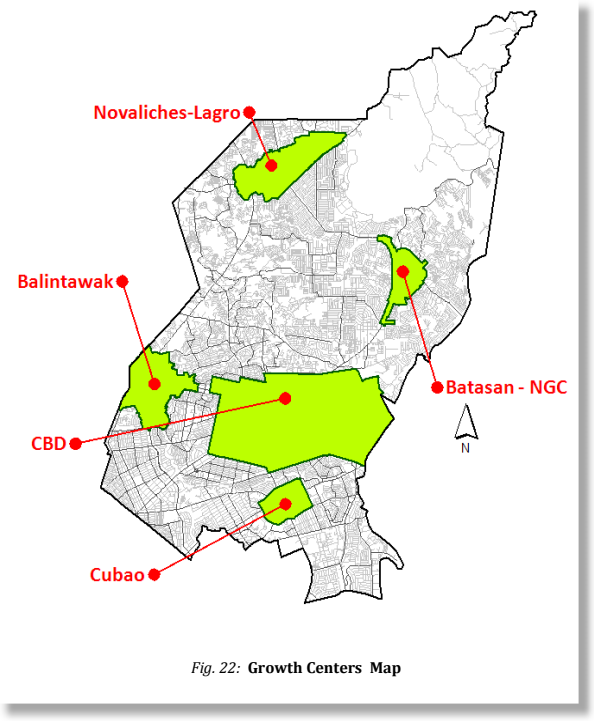

Fig. 22: **Growth Centers Map**

A detailed data on the listed growth areas are given in *Annex 3.*

These growth areas shall continue to enjoy priority in public investments in order that their central place functions will be enhanced. The simple economic logic of this strategy is that by offering tertiary level services in the growth centers communities within the immediate influence areas as well as people from across the city's borders will come and avail of these services thereby contributing to inflow of capital and increased gross domestic product of the city.

Because strengthening their central place functions is the main focus of policy intervention in this Plan, only tertiary level services are emphasized in each growth center.

5.1 CBD Knowledge Community District

The proposed CBD-Knowledge Community District has a total area of 1,862 hectares and covers 22 barangays straddling portions of Districts I, III and IV.

It embraces the proposed CBD comprising of the North and East Triangles and the Veterans Memorial Medical Center; the vicinity of SM North EDSA; UP Campus including the UP-Ayala Techno Hub;

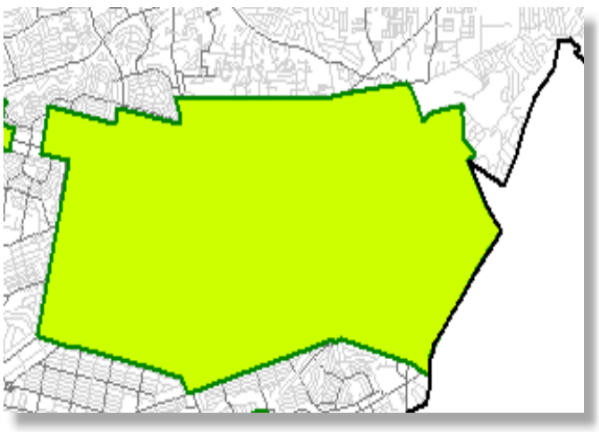

Fig. 23: **CBD Knowledge Community District Map**

the campuses of Ateneo De Manila and Miriam College; Balara Filtration Plant; and the residential communities of UP Village, Teachers' Village, Pinyahan, Krus na Ligas, Loyola Heights and Xavierville.

Due to its strategic location, magnitude and high value assets and resources, the proposed CBD covering a total area of 250.6 hectares will play the most crucial role in the realization of a Knowledge Community in the City. It is expected to assert the role of Quezon City in the metropolitan economy particularly in serving the demand for regional access, mass transit and infrastructure efficiency; large scale mix development; services for ICT, education, health, media and recreation; and employment. It envisioned to be a model of good urban environment and urban renewal/redevelopment practices. The Urban Triangle Commission, the presidential commission created to speed up the development of the East and North Triangles and the Veterans Memorial Area, has approved and endorsed to the city government the Comprehensive Master Plan for the Quezon City Central Business District including the Detailed Urban Design Guidelines for the East and North Triangles. The Master Plan is herewith attached as *Annex 4.* and is made integral part of the Comprehensive Land Use Plan.

(a) Inventory of Major Resources

Public Institutions

Education

- Three (3) premier educational institutions – the University of the Philippines, Ateneo de Manila University and Miriam College are found in this growth area.
- Other universities providing tertiary education include the Philippine Women's University in Bgy. West Triangle and those outside the area but just a short distance away like the New Era University across Central Avenue and PSBA, NCBA, TIP located in the nearby Cubao area.

Health

- Medical institutions and health facilities situated in the district consist of seven (7) hospitals and eight (8) health centers.
- Within the subject area are the Lung Center of the Philippines, National Kidney and Transplant Institute at the East Triangle area, the Philippine Children's Medical Center in North Triangle, Veteran's Memorial Medical Center along North Avenue, Philippine Heart Center and East Avenue Medical Center along East Avenue and the AFP Medical Center/V. Luna Hospital along V. Luna Road and the UP Health Service in the UP Campus with clientele on- and off-campus.
- The UP Veterinary Hospital providing services for animal care is found in the UP Campus.

Civil Society Organizations

- A total of 118 accredited non-government organizations (NGOs) hold offices in the study area, 23 of these are located in District I, 32 in District III and 63 in District IV. These NGOs are expected to take active part in various aspects of governance and in promoting the growth of the area. Among the NGOs noted are the World Vision Development Foundation in West Triangle, Partnership of Philippines Support Service Agency (Philssa) in Loyola Heights, ABS-CBN Foundation and GMA Kapuso Foundation in South Triangle, Migrante International in UP Village and Ilaw ng may Kapansanan Foundation, Inc. in Krus na Ligas.

Government Agencies

- The large institutional area is attributed to the huge portion of North and East Triangles and their immediate environs being set aside as government center.
- There are 41 government agencies located in the study area which vary from national, local and government owned and controlled corporations (GOCCs), among which include the Quezon City Hall – the seat of local government, National Housing Authority and Housing and Land Use Regulatory Board (HLURB) along Elliptical Road and Kalayaan Avenue, the Department of Interior and Local Government (DILG) at the corner of EDSA and Mapagmahal St., Social Security System (SSS)

and Bangko Sentral ng Pilipinas (BSP) along East Avenue, Bureau of Internal Revenue (BIR) and PAG-ASA along BIR Road and Phivolcs along C.P. Garcia Avenue in UP Diliman.

(b) Private Developments/Investments

Major private developments have been occurring in the study area. The pattern of development ranges from shopping centers/malls, information and communications technology (ICTs) establishments, and hotels and condominiums. Shopping centers and mall type developments emerged in the 1980s and gained popularity in the 1990s. They are now dominant features of the landscape in key areas in the city. Two of the biggest shopping malls are located in the study area – SM North EDSA and TriNoMa.

(c) Existing Functions

Green Lung of the City

The study area boasts of major parks and open spaces that are habitat to numerous species of flora and fauna – the Ninoy Aquino Parks and Wildlife (NAPW) and Quezon Memorial Circle and open spaces in large institutional grounds such as UP, Ateneo de Manila University, Miriam College, and Quezon City Hall.

ICT Industry

The UP-Ayala Techno Hub located along Commonwealth Avenue has one of the biggest concentration of IT parks and is considered the Silicon Valley of the Philippines.

Retail Hub

The SM North EDSA at the northside corner of EDSA and North Avenue is one of the largest shopping centers owned by Henry Sy. At the southside of the same corner, the Ayala-developed Triangle North of Manila (TriNoMa) can be found.

Health and Wellness Center

Notable medical facilities and specialized hospitals within the study area are concentrated at the North and East Triangles. Among these are the National Kidney and Transplant Institute, Philippine Children's Medical Center, Lung Center of the Philippines, Veteran's Memorial Medical Center, East Avenue Medical Center and Philippine Heart Center

Communications, Media and Entertainment Center

Two of the leading networks, ABS-CBN and GMA 7 and their associated radio stations are located in the South Triangle area. Also within the study area at the northern portion is the government-owned PTV-4.

Famous bars and restaurants are also in South Triangle particularly at the area of Timog, T. Morato and Quezon Avenues.

Functional Open Spaces

Two major parks in the city, the Quezon Memorial Circle and Ninoy Aquino Parks and Wildlife, with a total area of 44 hectares, are located at the heart of the study area. These could be interconnected with UP, Miriam and Ateneo to form the longest promenade.

The Bantayog ng mga Bayani Monument, a city landmark, where significant events are held is also located thereat occupying 1.3 hectares of the corner of Quezon Avenue and EDSA.

(d) Important Landmarks

Among the important landmarks are the following:

• QC Hall – seat of local government • Quezon Memorial Circle • Social Security System • GMA-7 • ABS-CBN • Boy Scouts of the Phils Monument • Ateneo de Manila University • Miriam College • University of the Philippines • U.P. Oblation • UP-Ayala Techno Hub • Iglesia ni Kristo Central Temple • Veterans Memorial Medical Center • Philippine Science High School	• Ninoy Aquino Parks and Wildlife • Bureau of Internal Revenue • Bangko Sentral ng Pilipinas • Philippine Heart Center • Sulo Hotel • V. Luna Hospital • National Housing Authority • Aquino Residence (Times St.) • Balara Filtration Plant • Bantayog ng mga Bayani Monument • Ninoy Aquino Monument • SM North EDSA • TriNoMa Mall

(e) Development Potentials and Needed Interventions

- The CBD-Knowledge Community District is situated in the most strategic part of Quezon

City. As hinted at in the preceding chapter, this growth center shall be developed and strengthened to serve as venue for realizing, and eventually demonstrating the attainment of the city's new vision to become the nation's capital once again, this time, in the field of knowledge management. Being host to premier institutions of higher learning and along with such institutions' facilities for science research and technology incubation offers an unequaled opportunity to become, if not already is, the nation's knowledge industry capital. The unspoiled greenery in the university campuses, public parks and other open spaces within the institutional reserves of many government agencies located in this district greatly enhance the city's role as the green lung of the metropolis. Finally, the presence of highly specialized hospitals and medical centers easily support the city's claim as the health and wellness center. The necessary soft programs in support of these functions are spelled out in the Comprehensive Development Plan. In this CLUP the needed physical development components are identified as follows: environment to enhance the already existing social infrastructure and create a good image of the city. The CBD-KC District will give flesh to the skeletal framework laid out earlier in the Frost-Arellano Plan, specifically the Great Quadrangle, the Quezon Memorial Circle, and the UP Diliman Campus. Some ideas worth pursuing include:

- Promoting walking and biking as legitimate modes of urban mobility by developing a grand promenade inter-connecting the campuses of Ateneo, Miriam and UP through to the Quezon Memorial Circle, the Ninoy Aquino Park and thence, to any point of the planned CBD in North and East Triangles. Minimum infrastructure requirements include, safe pedestrian crossing, well-lighted and shaded walkways, and dedicated bike lanes. Major infrastructure components of the grand promenade include a pedestrian and bikers bridge across Katipunan Road, linking the Ateneo and Miriam campuses with UP campus, and a third pedestrian underpass linking the Quezon Memorial Circle with Ninoy Aquino Parks and Wildlife Center.
    - Reducing the number of gas-driven jeepneys and tricycles plying local streets and replacing them with e-jeepneys and street cars or trams. A bus rapid transit system may be designed as a transition to the full operation of a street car or tram system.
    - Full implementation of the green building ordinance and giving incentives to innovative building designs such as the passively cooled building and power-self sufficient constructions using solar energy, and the like.
    - Assisting the universities to provide adequate housing for their out-of-town students, faculty and staff to encourage on-campus residence and thereby reduce the intensity of commuting.
- Developing the Pantheon and shrine of the Quezon Memorial Circle as the site of the new Quezon City Museum that will showcase the city's historical and cultural heritage.
- Construction of the City's Convention Center will provide a permanent venue for hosting national and international conferences on the arts and sciences.
- Bringing to final resolution the status of Krus na Ligas to pave the way for forging a co-management arrangement between UP and the City Government for the redevelopment of the area and possibly consolidating therein all informal settlements within the UP Diliman campus.
- Promoting various sites as tourism destination which includes the following :
    - <u>The Civic Center</u> : The area includes the City Hall Compound, the QMC, the Elliptical Road and the East Avenue, institutional

areas where most government agencies are located

- The Educational, Cultural and Artistic Development Center : This includes the various educational institutions namely, the University of the Philippines, Ateneo University, Miriam College, UP Techno-Hub and the Center for Culinary Arts, which are the drivers and epicenter of these knowledge community district. The area shall be established as hub for creating, nurturing and providing cultural infrastructure and other complimenting activities. Further, the importance of technology and communication, science and innovation, training and research activities is recognized such that these types of engaging activities shall continuously be promoted and maintained.
- Lifestyle and Entertainment District : This is the South Triangle area that has developed and has become popular as fine dining and night-time entertainment area particularly along its major thoroughfare such as Timog Ave., Tomas Morato Ave. and Quezon Avenue. The flourishing of these fine dining restaurants and entertainment businesses shall be encouraged . A particular area is the Sgt. Esguerra stretch shall be particularly developed as an Entertainment Blvd. capitalizing on its distinctive features, the existence of the country's two giant Broadcast TV Stations (the ABS-CBN and the GMA Network). Special streetscape and signage control shall enhance the physical appearance of the site
- QC – Central Business District (CBD) : The CBD covers 250.6 hectares located in the City's North and East Triangles and the Veterans Memorial Hospital area intended to be globally competitive business location. It is designed and master planned to be vibrant day and night, neighborhood with easy access to retail and urban services, building designs that preserve human scale, public areas that have good aesthetic design, lively commercial centers and transport-oriented development.

  It will be established to foster a mixed-used development oriented towards transit facilities for improved access/circulation and mobility. The special district includes substantial new corridors for better and safer commercial and residential development

5.2 Cubao Growth District

(a) Population and Area Coverage

Cubao growth area covers in part or in whole 9 barangays *(Immaculate Concepcion, Kaunlaran, E. Rodriguez, Socorro, San Martin de Porres, Silangan, San Roque, Bagong Lipunan ng Crame,, Pinagkaisahan)* of Districts III and IV. Araneta Center, the city's old CBD is the nucleus of the growth area. Of these barangays, the densest one is Bgy San Martin de Porres with a population density of around 709 persons per hectare while the least dense areas are Bgys Socorro and Immaculate Concepcion with population density of 128 and 168, respectively. Estimated population for 2010 is 237,559.

(b) Inventory of Major Resources

Public/Private Institutions

There are no tertiary level institutions put up by the government in this district, only those necessary to serve the requirements of local communities. The main reason for this is that the Araneta Center which is the focal point of the district and which served as the central business district of the entire city for a long time is completely a private enterprise on a private estate.

School Facilities

There are 8 educational institutions in the study area; 5 public schools and 3 privately-owned

Health Facilities

- One (1) Government-owned hospital (*PNP Gen. Hospital)*
- Three (3)_Health Centers *(Cubao Health Cen-*

Fig. 24: **Cubao Growth District Map**

ter, Ermin Garcia HC, Socorro)

Police Station

- Two (2) Araneta Police Assistance Ctr, Station 7 QCPD, Camp Panopio Station)

Sports and Recreation

Araneta Coliseum known as the Big Dome, the country's biggest sports and entertainment venue with 20, 000 sitting capacity. Other sports and recreational facilities are located in their respective barangays covering the district which include parks and playgrounds among others.

Religious Facilities

Religious activities/affairs of Catholics are served by the Immaculate Concepcion Parish Church and non-Catholics by several other non sectarian chapels in the area.

(c) Private Developments / Investments

All tertiary level services needed to perform the central place function of this district are accounted for by the private sector. Private developments in the area are concentrated at the Araneta Center and its proximate vicinities, very notable of which are the Gateway Mall, which is a high end shopping center, SM Cubao, Ali Mall, Shopwise, Isetann, Puregold, Farmers Plaza, and the famed Araneta Coliseum.

And nothing else typifies an up-to-date, dynamic commercial district with the presence of call centers - the fastest growing industry in our country.

The ongoing developments by the Megaworld of a mixed residential/commercial buildings known as Manhattan Garden City is prominent in the area. There are already three (3) completed high rise buildings of this kind, one ongoing and more are upcoming.

(d) Existing Function

- *The area is considered a shopping and entertainment destination.* Cubao area is known as the central commercial district of Quezon City - home of hip and groovy nightclubs, drinking pubs, and shopping malls. It conjures up images of wet market stalls and people flocking there for a bargain. It also calls to mind shopping malls where all manner of goods-from the pricey imported goods to the best of Filipino products--can be purchased. Coffee shops, movie houses, and restaurants for every budget range can be found here.

- *It is the modal transfer hub of the city* . The center's location is all about convenience - it is flanked by both the EDSA MRT station, which travels from North to South, and the LRT-2 station, which runs from East to West. Cubao area thus acts as a *major transport mode interchange zone* where commuters transfer rides mostly to/from work or to/from school. The growing number of public bus, jeepney and FX terminals and stations have notably improved accessibility from Quezon City to almost any point in Luzon.

- *The area also functions as an IT park*. Nothing else typifies an up-to-date, dynamic commercial district but the presence of call centers - the fastest growing industry in our country. It is home to call centers like APAC, Telus, and Stellar, each one equipped with advanced telecommunication facilities and broadband technology to meet the unique requirements of modern-day entrepreneurs engaged in the business of information technology.

(e) Important Landmarks

- The **Araneta Center** which has been redeveloped towards a more contemporary retail and recreational center that has appeal not only to the masses but also to the middle class.

- The massive Araneta Coliseum, fondly called **"The Big Dome"** stands at the epicenter of the development. Adjacent to the Araneta Coliseum is the 2 billion peso new Gateway Mall. Atop Gateway Mall is a 7-storey office tower equipped with advanced telecommunications facilities and broadband technology designed to attract business process outsourcing companies.
- The **Farmers market** and **Nepa Q-Mart** are also identifying landmarks especially for provincial commuters.

(f) Development Potentials and Needed Interventions

• *Redevelopment Potential*. The presence of international investors and big private groups to pursue the plan to transform Araneta Center into an entertainment, retail and business center looms large in the horizon depending on medium- to long-term economic forecasts. Policy intervention from the City Government may take the form of incentives for owners of blighted property to invest in redeveloping their property. This positive approach can escalate into the application of the idle lands (or its variation, underutilized property) tax if affected property owners prove to be unresponsive.

• Tourism Potential. The Araneta Center has long been recognized as the first well built commercial and entertainment hub developed in the city. The major landmark, the Araneta Coliseum, an architectural master piece, continuous to be a venue of major concerts/shows with total sitting capacity of 20 thousand. The area is also an intersection point, a transport hub of two of the city's commuter train lines (MRT-2 & MRT-3) including various transport terminal. It provides high connectivity to places of Metro Manila. Mixed use development and expansion are being promoted, standing mix of residential, commercial and cultural uses (e.g. 5-Star Hotel, Condominiums and Malls) are being undertaken on site. The area is also known to be among the most expansive wi-fi hotspots in the city.

• *The Presence of the Mass Rail / Light Rail Transit Lines.* The center's location is very convenient. It is flanked by both the EDSA MRT station, which runs from North to South, and the LRT-2 station which runs from East to West. The great mass of people who visit the area however, are just passing through and do not generate much business. The property owners/developers should intensify efforts to make Araneta Center a trip destination as it used to be in the past. The City Government can help in this effort by holding some of its functions at the Araneta Coliseum.

Another function of the Araneta Center that needs policy intervention is that of modal transfer hub of land-based transportation, especially those destined for provincial areas. The usual government support is limited to police activities during holiday seasons. There is need for providing convenience for passengers such as left-luggage lockers and decent but affordable lay-over facilities for stranded passengers.

All bus terminals along EDSA should be phased out. North-bound lines will be relocated to the Balintawak central terminal. South-bound lines will be consolidated in the Araneta Center.

Regulate building heights within a 50 meter margin along EDSA and Aurora Boulevard to allow effective dispersal of vehicular emissions. Beyond the 50-m margin property owners will be encouraged to redevelop their property into medium to high rise constructions.

• *Growth of IT-business in the area.* With the development of IT sector, many IT based services have located within the city. The area, with its infrastructure already in place, becomes an ideal location for this emerging industry and brings greater competitiveness to the city's economy

5.3 Batasan-NGC Growth Center

This growth area is located at the northeastern part of Quezon City. It is bounded on the north by lot deep northeastern portion of Commonwealth Avenue, then lot deep northern portion of Batasan Road; on the east by lot deep eastern portion of Batasan Road; on the south lot deep south eastern portion of Batasan Road going westward to lot deep Commonwealth Avenue down to Capitol Homes Drive; and on

Fig. 25: **Batasan-NGC Growth CenterMap**

the west by lot deep western side of Commonwealth Avenue from Holy Spirit Drive up to creek

It has a total land area of 224.23 hectares covering the major portions of Barangays Commonwealth and Batasan Hills and small parts of Barangays Bagong Silangan, Holy Spirit and Payatas and identified as National Government Center. It has an estimated population of 78,402.

(a) Inventory of Major Resources

Public/Institutional

The study area has five (5) national government institutions namely: Sandiganbayan, Commision on Audit, Department of Social Welfare and Development, Civil Service Commission, and the House of Representatives or Batasang Pambansa. The House of Representatives Electoral Tribunal and the Professional Development Center are two (2) additional institutions which are extension offices of the House of Representatives and the Commission on Audit, respectively, located next to the Sandiganbayan. In addition, twelve (12) community facilities are strategically located in the study area such as barangay hall of Bgy. Commonwealth, two (2) health centers, five (5) daycare centers, one (1) police station, one (1) fire sub-station. The are two (2) developed public parks in the area.

There are five (5) public schools, three (3) elementary, one (1) secondary and one (1) tertiary. Notably, Commonwealth E/S and its newly built annex, the Pres. Corazon Aquino E/S annex along Batasan Road has the most number of students in Quezon City. Batasan National High School caters to enrollees within its neighboring barangays and has the highest number of students within Quezon City. The QC Polytechnic University located at Quirino Highway, Bgy. San Bartolome has a newly opened branch in the Batasan-NGC district.

A total of twelve (12) private schools are found in the area, three (3) of which are in tertiary level, namely, ABE International Business College, Asian Institute of Computer Studies (AICS) and AMA Computer University.

Other institutional facilities include the two (2) catholic churches namely: St. Peter Parish Church, Parokya ng Kristong Hari and three (3) chapels located within the interior streets of the National Government Center and four (4) non-catholic namely: Iglesia ni Cristo, Seventh Day Adventist, Resurrection Power Christian Church and Pentecostal Missionary Church of Christ are located within the study area.

(b) Private development/Investments

The stretch of Commonwealth Avenue is characterized mainly by commercial development which is a mixture of retail and wholesale establishments. The western portion of Commonwealth Avenue in particular has a high concentration of auto related businesses and construction supplies and services. Also, the recently opened Wilcon Depot, a one-stop-shop for construction supplies and materials is located at the northernmost part of the study area.

Commercial banks are visible in the study area such as HSBC, PS Bank, BPI Family Bank, Metrobank, Security Bank, Union Bank, Allied Bank, Philippine National Banks and three (3) branches of Landbank to facilitate financial transactions in the process of economic development.

The Ever Gotesco Center Mall, one of the earliest shopping centers in the area and the numerous medium-rise commercial buildings that accommodate the restaurant and fast food chains like Pancake House, Starbucks, Jollibee, Mc Donalds, Chowking and Tapa King are also evident along Commonwealth Avenue. The Convergys Company known for leadership in relationship management that hires

hundreds of workers benefits the City's residents.

The spacious Commonwealth Market serves as a drop-off point of different commodities mostly coming from the provinces of Rizal and Bulacan. It caters to enormous numbers of customers coming from neighboring cities. Litex Wet and Dry Market and six (6) flea markets serve as an extension of Commonwealth Market to supplement the need of NGC residents.

(c) *Landmarks*

The most distinguished landmarks in the study area are the Commission on Audit Compound and the Batasan Pambansa Complex built in the late seventies as the site was originally planned to house the constitutional offices.

Other notable landmarks are the Sandiganbayan and Ever Gotesco Center since most of the transport terminals are located within or near these structures. The most popular get-off point is called "Manggahan". It is actually the intersection of Villonco-Katuparan Streets and Commonwealth Avenue. It is still referred to as "Manggahan" because in the past the NGC west side was filled with mango trees but was subsequently occupied by the informal settlers.

(d) Existing Functions

The existence of different national government offices affirms the original role of the study area as a national government center. Most of the said offices are independent constitutional commissions and the other half of the national government's legislative function. Originally, the plan for the National Government Center is to house the rest of the government offices, however, informal settlers had occupied the NGC site and petitioned the government to improve the land and make it available to them.

As a socialized housing district since the approval of Republic Act No. 9207, otherwise known as the National Government Center Act of 2003, it showcases the efforts of the government to provide security of tenure to the bonafide residents.

The presence of Commonwealth Market and its extensive location caters not only city's residents but also those from neighboring cities and provinces of Rizal and Bulacan. The "bagsakan area" adjacent to the market serves as a center of regional trade.

(e) Policy Interventions

This growth center has the most polarized of functions: the Batasan Complex is an enclave of the country's political elite who work and hold office within the legislative premises during the day when Congress is in session. Then the members of the House go off to their residences elsewhere. Surrounding the Batasan Complex is possibly the biggest colony of the urban poor in the country. There is absolutely no form of linkages between the two enclaves. The big challenge for the area is to establish such a link by encouraging the surrounding communities to provide facilities for temporary or seasonal housing for members of Congress who come from the provinces, their relatives and staff during that part of the year when Congress is in session.

As for the socialized housing part of the district, it could serve as the venue for experimenting on various tenure types and innovative approaches to urban poor housing provision. For this purpose, the City's UPAO may collaborate with national shelter agencies and voluntary organizations.

The most visible central place function of the district is the presence of the Commonwealth Market which serves as a food terminal for agricultural products from nearby towns of Bulacan province in the north and Rizal province in the east. The population of the district and nearby communities is a huge consumer market that gives employment to farmers in the fringes of the metropolis. In turn, local retailers are assured of continuous business. The unhampered inflow of farm products is therefore important to ensuring the food security of the City's population. The minimum support that the City Government can give to this central function is to provide efficient access roads and adequate market infrastructure. Also, provide facilities for quality control to ensure that the foodstuffs being brought in from other areas are safe, clean and sanitary.

Provide affordable tertiary social services such as a community college and a general hospital to benefit the low income families within the immediate

Establishing a fire-fighting and first-aid response unit along Commonwealth Avenue near the market site will improve emergency response time especially to the inner communities where roads are narrow.

Another observed requirement is for a police community precinct at the Litex area to provide crime prevention and deterrent services in such zones where commuters and pedestrians often converge.

5.4 Novaliches-Lagro Growth District

This growth area is located at the northern part of the city adjacent to Novaliches Watershed and near the political boundary of Upper Caloocan City. The area is the Gateway of the city from neighboring cities of Caloocan and San Jose del Monte of Bulacan interconnected by Quirino Highway. The industrial area of the city along with those of the cities of Caloocan and Valenzuela are also sited on

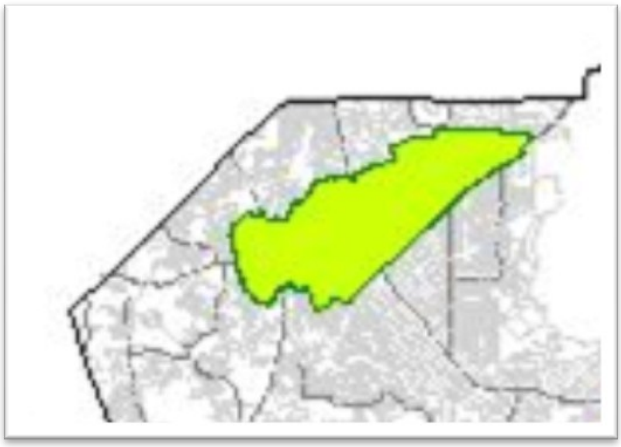

Fig. 27: **Novaliches-Lagro Area Map**

the western side of the study area.

It has a total land area of 445.00 hectares or 2.76% of the land area of the city covering Bgy. Novaliches Proper, Pasong Putik Proper and portions of Bgys. Sta. Monica, San Agustin, Kaligayahan, and Greater Lagro. It has a total estimated population of 31,591.

(a) Important Landmarks

The important landmarks noted in the area are the Novaliches District Center, known as the Mini-City hall located along Moses Street, the Lady of Mercy Shrine, the SB Park, the old existing Jacinto Steel Plant, SM City Fairview and Robinsons Place which are all located along Quirino Highway.

(b) Present Functions

The existence of the three major shopping malls in the study area makes it the commercial center of the northern portion of the city including its immediate environs such as upper Caloocan City and the province of Bulacan, particularly San Jose Del Monte City.

The project area can also be considered an IT Center with the existence of two (2) major IT companies specifically located inside Robinsons (Teletech) and SM City Fairview (Teleperformance) with the support facilities of the IT-related educational institutions.

The area is also the old community and commercial center of the Novaliches District with the existence of Novaliches Market and other markets in the area. The area remains to be the Novaliches commercial core catering not only to its residents but also those of the upper Caloocan and San Jose Del Monte.

The existence of several terminals in the project area makes the major transport mode interchange zone where commuters change rides mostly either to/from work or to/from school.

(c) Remarkable Constraints and Development Potentials

- *Constraints*
  - Congestion of commercial areas and narrow road right-of-ways that aggravate traffic and pedestrian circulation and limit the area for high commercial activities.
  - Proliferation of various transport terminals and on-street parking
  - Limited buildable area for development in the Novaliches area.
  - Poor physical condition (unsanitary surroundings) particularly in markets
  - Slow phasing of the development in Lagro area.
  - Loading and unloading of passengers any-

- *Potentials*
  - Private investors still consider the area as a potential site for commerce by putting up new development in the area.
  - The existing zone classification (C3) will provide investors an opportunity to develop the highest and best use of the land.
  - Availability of buildable areas for development
  - Presence of major IT Companies
  - Existence of IT related educational institutions
- *Proposal for the Area*

  Functions to be Retained or strengthened:
  - The commercial center that provides retail and trade businesses and employment.
  - The IT center that provides employment particularly call center agents.
  - The Transport Hub that needs rehabilitation to avoid major traffic congestion.

(d) Policy Interventions

- Widening of roads especially in Novaliches Proper and decongesting Quirino Highway by providing alternative or parallel routes
- Encourage private investors to put up modern medical centers to supplement the few small hospitals that serve the growing population of the area and the neighboring cities.
- Put up tertiary educational institutions to accommodate the growing student population taking up Vocational, IT, Medical Courses in the area instead of going to the University Belt of the City of Manila.
- Establish a fire-fighting and first-aid response unit along Quirino Highway at Zabarte area for improved emergency response time.
- Installation of a police community precinct at the Lagro-Fairview area is necessary to provide crime prevention and deterrent services in the zone where commuters and pedestrians often converge.

5.5 Balintawak-Muñoz Growth District

Located at the middle Westside portion of the City at the boundary with Caloocan City is at the junction of EDSA and the North Luzon Expressway. Approximately 419.31 hectares, it covers he entire Barangays of Unang Sigaw, Balumbato and portions of nine (9) other barangays namely Bgys. Bahay Toro, Ramon Magsaysay, Veterans Village, Katipunan, Masambong, Manresa and Balingasa in District I and Bgys. Baesa and A. Samson in District II.

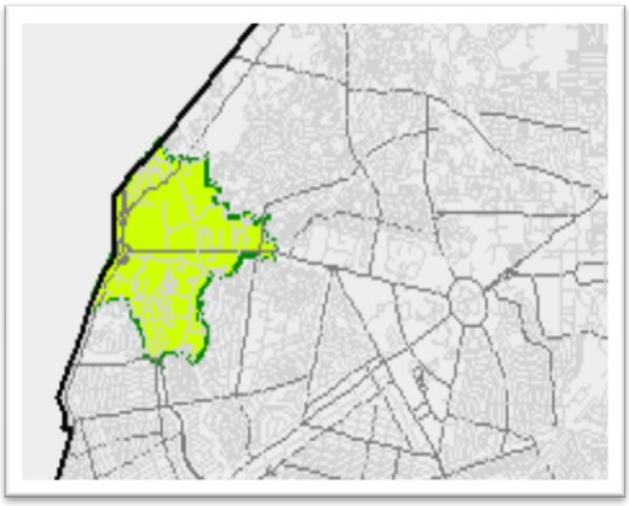

Fig. 26: **Balintawak-Munoz Growth District Map**

The area has an estimated population of **56,864** representing 1.92% of the City's population.

(a) Land Use (2009)

- Industries dominate at 37.28%, located mostly in the inner core, along Oliveros Drive and on the west bank of Balumbato Creek, along Samson Road, Quirino Highway and Joy Street. Industries vary from manufacturing and fabrication to warehousing or storage.
- Residential use, next largest land use at 22.79%; comprises the communities along Kaingin Road, Balingasa Road and Quirino Highway
- Informal settlers occupy about 4.20% of the total area.
- Commercial use comprises 9.62% located along major thoroughfares, EDSA, A. Bonifacio, Quirino Highway and North Luzon Expressway.

(b) Inventory of Major Resources

- *Public/Private Institutions*
  - There are five (5) public educational institu-

influence area as well as in the metro fringe areas.

- tutions within the area. Four (4) are elementary schools and one (1) secondary school. There are also two (2) privately owned colleges.
- There is one Police Community Precint (Talipapa PS-3) located at Camachile and one Police Assistance Center at Cloverleaf Area.
- The area has two (2) general hospitals, the Quezon City General Hospital and Pascual General Hospital.
- Four (4) Barangay Halls are also located in the area namely Balingasa, Balumbato, Unang Sigaw and Apolonio Samson.

(c) Private Development/Investments

- Area is host to nine (9) wet and dry markets, concentrated at the Cloverleaf area along EDSA and to the Walter Mart and Muñoz Market at Muñoz area.
- Wholesale and retail activities sprawl along EDSA, Old Samson Road, A. Bonifacio Avenue and Quirino Highway.
- Industrial activities vary from manufacturing, fabrication and warehouse and mostly located at the inner core, along Oliveros Drive and on the west bank of Balumbato Creek, along Samson Road, Quirino Highway and Joy Street.

(d) Existing Functions

- Known as trading center, a "bagsakan" for agricultural produce, particularly from the North.
- Area's traditional industrial character resulted from the spill of industrial activities from Caloocan. In fact, the area used to be a portion of the industrial zone of Caloocan City before the creation of QC.

(e) Important Landmarks

- The Bonifacio Monument located at Balintawak Cloverleaf area
- Balintawak-Cloverleaf Market "bagsakan" and Muñoz Market

(f) Significant Problems

- *Physical*
  - Inefficient lot subdivision. The subdivision of lot parcels in the area without provision for access of inner properties has resulted in irregularly-shaped and- sized lots.
  - Poor intra-area circulation. This is caused by the non-interconnection of existing roads and the exclusivity of certain subdivision roads being portions of private properties.
  - Lack of area-wide transport system. Inner areas of Balintawak are being served only by TODAS while some areas have no public transport like upper A. Samson and Unang Sigaw. On the other hand, jeepney services pass only along secondary roads such as Old Samson Road and Kaingin Road.
  - Deficient drainage system. The local drainage system is either clogged with silt and garbage or has under-sized drainage pipes.
  - Roadside Friction. This is caused by indiscriminate loading and unloading of passengers by public utility vehicles, poor condition of road pavements, narrow roads and on-street parking.
  - Encroachment of industrial, and commercial developments and squatters along waterways. This has contributed to the deterioration of the natural waterways in the study area. This is exacerbated by the dumping of waste and other deleterious materials in the area's rivers and creeks.
- *Socio-Economic*
  1. Uncontrolled proliferation of illegal vendors. The existence and uncontrolled operation of sidewalk vendors particularly at the Cloverleaf Market zone have caused adverse effects on the physical and environmental condition in the same.

2. Presence of informal settlements.

3. Inadequate fire-fighting services in the study area.

4. Decrease of economic activities. Some of the old industrial establishments in the area are now abandoned or being used as storage facilities/warehouses. Said operation lessens productivity and economic activities in the area and only contributes to the deterioration of its environmental condition.

- Deteriorating conditions of the existing markets. Most of the big markets in the area are operating for a long period of time and structures are now deteriorating. Some of these markets are using big portions of their area as storage facilities. Also, most of them have no building permit and have been found violating many regulations in the Sanitary Code and in the Fire Code as well.

(g) Advantages of the Area

- *Locational*
  - location; crossroads of EDSA, Manila North Diversion Road, Quirino Highway and A. Bonifacio Avenue Gateway to the North
- *MRT Extension*
  - The extension of EDSA-MRT from North Ave. A central Depot towards Monumento area in Caloocan will greatly increase the volume of potential market/investors.
  - Some of existing industrial establishments with big site areas had long been abandoned, thus, are ready for redevelopment.

(h) Policy Interventions

- Find a way to link the northern and the southern parts of the district which is bisected by EDSA and the LRT North-Monumento Extension.
- Revive the proposal to develop the northern part as the grand transport modal transfer hub where all bus lines from areas north of Metro Manila terminate. Complementary to this development is to locate in the same area the central depot of the MRT 3.
- Retain the traditional function of the Cloverleaf-Munoz stretch of EDSA as the food terminal market for agricultural produce coming from central and northern Luzon. Integrate processing and packaging of agricultural products destined for the more sophisticated urban consumer markets.
- Determine the feasibility of city-owned and operated abattoir of Triple A rating. This is to counteract the continued illegal traffic in "double dead" meat.

6 THE NON-GROWTH AND SPECIAL DEVELOPMENT AREAS

Areas outside of the growth centers are designated as non-growth areas. This is not to imply that such areas do not experience growth or are prohibited from growing. It simply means that these areas lack central place functions. The services available in these areas cater generally to the normal requirements of local residents. To avail of higher-order goods and services, the residents in non-growth areas go elsewhere, usually to the growth centers.

Non-growth areas in Quezon City are classified into three types. One group is characterized by the predominance of mature, stable residential neighborhoods. The residents in these areas feel secure and satisfied and are not keen to embark on anything that would drastically alter the character of their area. Examples of this type are the residential subdivisions of White Plains, Blue Ridge, La Vista, Xavierville, Corinthian, Green Meadows, and New Manila. The second type is a variant of the first group in that this area is typified by the existence of old deteriorating structures and blighted environments. In the case of residential areas, the original occupant families may have reached maturity and have since broken up, the children having flown the coup and the family house may have passed on to renters and tenants. Sporadic reinvestments by some of the property owners who managed to consolidate a few adjoining lots can be observed but their number is not massive enough to amount to a substantial renewal of the area. Examples of this type are the housing projects of the then PHHC (Projects 1, 2, 3, 4, 6, 7 and 8). Blighted areas may also consist of industrial sites which have either ceased operation or maintain minimal volume of business. Many of such sites have been abandoned by their owners and the entire premises are left to rust and rot. A few property owners are seen to convert to mixed use development. This category is typified by the industrial area of Libis, Novaliches and Bagumbayan. The third type of non-growth areas consists of a collection of parcels of irregular sizes and shapes many of which are being occupied without clear tenure arrangements. There is a serious backlog in the provision of community facilities and services primarily because of difficult external and internal access. A considerable amount of vacant lands still exist in these areas. This type of non-growth areas, designated here as Transitional Areas, is found in the north central part of Quezon City (District II) straddling barangays Sta. Lucia, Sauyo, Pasong Tamo, and Tandang Sora.

The non-growth areas and their corresponding policy interventions are described briefly in the succeeding section. Within some of these non-growth areas are the special development zones, namely, Banawe Street "Chinatown" Special Economic Growth Area, Tomas Morato Avenue Special Development Zone, Quezon Institute Heritage Preservation Precinct, and the Payatas Special Development Area.

6.1 The Mature Stable Areas

These areas consist of high-end residential subdivisions on the southern and northeastern portions of the city. Outside of the growth centers there are three such areas: Ugong Norte, Horseshoe and New Manila straddling portions of Congressional Districts III and IV. Encompassed within these stable communities are 11 barangays with a combined population of over 100,000. These 11 barangays have a combined land area of 680 hectares.

These areas are conspicuous for the presence of gated communities. The subdivision design conforms with standards for low density residential areas (R-1) with ample provisions for open space and common utility areas. Internal circulation is strictly by private motor vehicles. An exception to

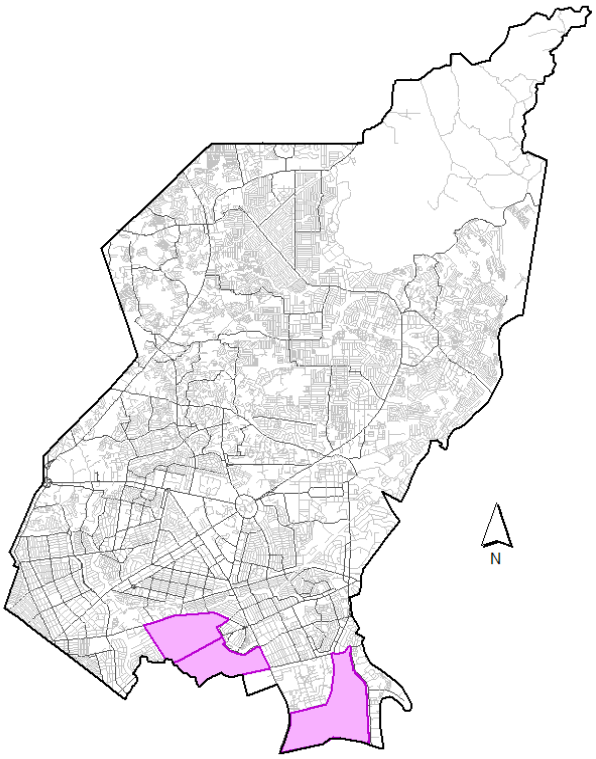

Fig 28: **Mature Stable Areas Map**

this general design feature is New Manila where the internal streets are generally open-access. Its perimeter is porous but each lot is an enclave to itself surrounded by formidable walls.

Because of the high sense of security felt by the residents of these areas they are not keen to introduce any drastic changes on the character of their place. The policy intervention appropriate for these areas therefore is to preserve their essential character.

Residential subdivisions with characteristics of mature communities that happen to be located inside a growth area cannot expect the same level of protection. Additional data on the identified blighted areas are given in *Annex 5.1.*

6.2 Blighted Areas

Blighted areas cover almost half of the total land area of the city and more than half of the population. Spread all over the city straddling 116 barangays and grouped into 20 districts, these areas are predominantly residential. (See Table 6.1). Most of the housing stock is owner-occupied but the owner occupiers are obviously not investing enough to maintain the quality of their structures. Those that invest in the improvement of their housing are conspicuous in their own neighborhood but their number is not big enough to effect a massive urban redevelopment.

The collective effect of the seeming neglect by homeowners to maintain the quality of their dwellings is to give the city a slum look, an unwelcome visual image.

In the face of this predicament the city has limited options. It does not have the capability to engage in massive urban renewal. Urban land readjustment is a possible alternative but this urban renewal approach, though successful in East Asian countries, has not found acceptance in the Philippines.

Perhaps the city can try on a limited pilot basis certain schemes of assistance to owners of blighted property who are willing to invest in rehabilitation or home improvement. More detailed data on the identified blighted areas are given in *Annex 5.2.*

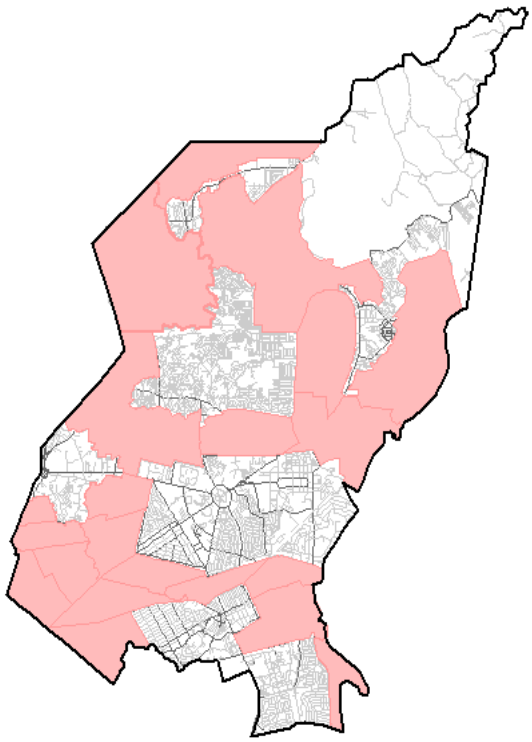

Fig 29: **Blighted Areas Map**

Table 6.1 : **Blighted Areas**

Name of District	Total Area (ha.)	No. of Bgys.	Latest Population (combined)	Predominant Land Use
Maligaya Community District	387.98	3	107,814	Resd'l (36.57%)
Sn Bartolome Community District	993.45	5	202,960	Resd'l (35.38%)
Fairview Community District	1,185.91	6	203,768	Resd'l (28.44%)
Batasan Hills Community District	821.22	3	283,642	Resd'l (IS (20.86%)
NGC-West Community District	467.11	2	157,187	Resd'l (40.0%)
Baesa-B. Toro Community Dist.	800.31	7	238,632	Resd'l (48.05%)
Culiat-New Era Community Dist	320.16	2	76,529	Resd'l (36.62%)
Old Balara Community Dist	510.12	2	76,117	Resd'l (33.83%)
Munoz Community District	194.15	4	39,302	Resd'l (44.23%)
Damar Community District	194.15	3	26,999	Resd'l (44.23%)
Manresa Community District	140.56	3	37,380	Resd'l (31.39%)
Del Monte Community District	218.80	7	49,484	Resd'l (52.77%)
Sto. Domingo Community District	229.31	4	27,803	Resd'l (53.25%)
Mayon Community District	205.98	7	49,680	Resd'l (42.24%)
Tatalon Community District	242.51	5	87,004	Resd'l (34.20%)
Scout Community District	187.13	4	26,043	Resd'l (40.67%)
Kamuning-Kamias Community Dist	147.33	5	39,623	Resd'l (49.79%)
Quirino Area Community District	159.24	10	37,622	Resd'l (52.11%)
Murphy-Proj 4 Community Dist	341.95	17	89,298	Resd'l (52.84%)
Galas Community District	280.16	7	75,819	Resid'l (45.94%)

6.3 Transitional Areas

The study area is located at the heart of the City confined in the second congressional district.

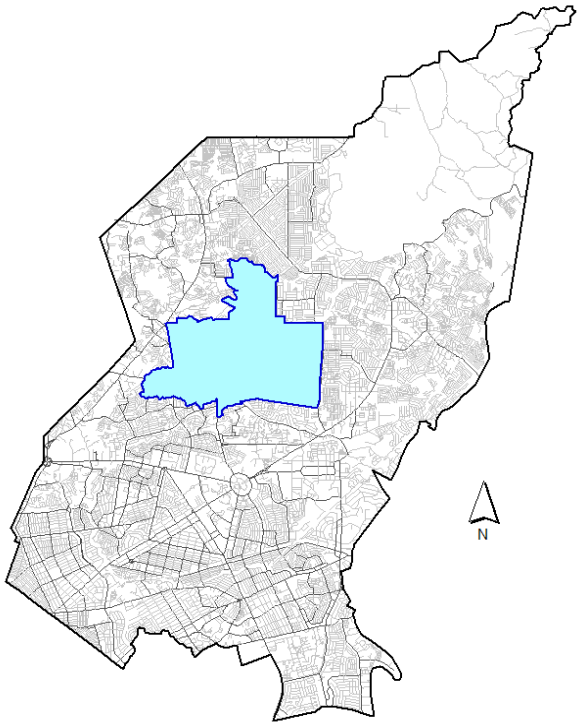

Fig 30: **Transitional Areas Map**

The boundary delineation as follows:

North : by the northern boundary line of lots 534,767-B-1, 767-C, 586-A, 536-B, 537-B-3; then going northward to the western political boundary of Bgy. Sauyo-Sta. Lucia; then going eastward along Tullahan River

East : by eastern boundary line of Bgy. Sauyo; then going eastward along Republic Avenue up to Luzon Avenue; then southward along Luzon Avenue

South : by Congressional Avenue going southward to Pasong Tamo River; then along Pasong Tamo River up to Visayas Avenue; then northward along Visayas Avenue and going westward along the southern boundary line of Bgy. Tandang Sora up to Dario Creek

West : by Dario Creek going northward up to Mindanao Avenue; then northward along Mindanao Avenue and western boundary line of Bgy. Sauyo

Table 6.2
Transitional Areas

Barangay	Area (M^2)	Density Person/Has	2007 Population	Growth Rate	2010 Population
Sta. Lucia	674,467.32	357	24,050	3.513	26,675
Sauyo	2,759,557.80	245	67,587	11.845	94,562
Pasong Tamo	4,976,006.07	165	82,340	3.391	91,004
Tandang Sora	3,907,821.85	192	74,863	6.789	91,169
Total	**12,317,853.04**		**248,840**		**303,410**

- The study area has a total land area of 12,317.85 hectares consisting of four (4) barangays: Sta. Lucia, Sauyo, Pasong Tamo and Tandang Sora.
- It has an estimated population of 248,840 based on the 2007 National Census.

(a) Inventory of Major Resources

- *Public/Institutional*

  - The study area has various community facilities to deliver basic services at the barangay level.

  - The presence of four (4) barangay halls located on their respective barangays

  - About four (4) health centers: Santa Lucia Super Health Center, Sauyo Health Center, Banlat Health Center and M.H. Pedro Health Center.

  - A total of twenty (20) daycare centers contained at the study area to provide a specialized program or facility that cares for the preschoolers.

  - The study area has seven (7) public schools; four (4) primary schools and three (3) secondary schools evenly distriuted having one primary and secondary each barangays, excluding Bgy. Pasong Tamo having only one primary school.

  - A total of eighteen (18) private schools, fifteen (15) schools of primary and secondary and three (3) schools in tertiary

  - A total of eighteen (18) private schools, fifteen (15) schools of primary and secondary and three (3) schools in tertiary

  - Pasong Tamo Public Library provides information services responsive to the needs of the community.

  - Presence of Ann Francis Hospital conveniently located along Quirino Highway to give immediate medical care and treatment.

  - Other institutional facilities include ten (10) catholic churches/chapels and about five (5) non-catholic churches.

  - Various religious formations : St. Vincent Seminary, Servants of Charity Convent and Oblates of Mary Convent, Sisters of St. Dorothy of Paula Frassenetti Convent and Alagad ni Maria.

(b) Private development/Investments

- Numerous commercial developments have emerged within the study area like restaurants, supermarkets, drug stores and wet and dry markets.

- Thriving commercial growth areas: Visayas-Tandang Sora Avenue and Mindanao-Tandang Sora Avenue.

(c) Existing Functions

- The study area is basically residential in close proximity to each other.

- Major educational institutions: Far Eastern University-FERN College, St. Claire School, St. Anthony Academy of QC and St. James College of QC are located in the area.

- Presence of several religious congregation facilities like convents, seminary and formation centers.

- Presence of Himlayang Pilipino Memorial Park.

(d) Transport Access

- *External Access*

  - Major access points: Regalado Avenue, Republic Avenue, Luzon Avenue, Tandang Sora Avenue, Congressional Avenue and Mindanao Avenue

  - Other access roads are secondary and restricted to subdivision homeowners only

- Internal Access

  - City and subdivision roads

- Major Transport Routes

  - Mindanao Avenue
  - Tandang Sora Avenue
  - Luzon Avenue
  - Republic Avenue
    Don Julio Gregorio Avenue
  - Himlayan Road

- General Avenue
- Visayas Avenue
- Congressional Ave Extn

- Secondary Roads
  - Old Sauyo Road
  - Pantabangan Road
  - Philand Road
  - T.M. Kalaw Street
  - Narra Avenue
  - Jose Abad Santos Street
  - J.P. Rizal Street
- Mode of Transport
  - Public utility jeepneys, buses and FX ply along Tandang Sora, Visayas, General and Mindanao Avenues
  - Tricycle services along secondary and subdivision roads
  - Pedicabs run thru inner streets
- Choke Points
  - Identified as choke points during rush hours are the intersections of Visayas
  - Congressional Avenue, Tandang Sora–Himlayan Road and Tandang Sora-Mindano Avenue

(e) Buildable Areas

- Significant sizes of private vacant lots are found at Pingkian area specifically the area adjacent to Himlayang Pilipino Memorial Park
- Vacant lots along Don Julio Gregorio Street

(f) Functional Open Spaces

- About twelve (12) developed parks and seventy-one (71) undeveloped parks

(g) Landmarks

- The study area is home to at least two tourist attractions and tourism-oriented facilities: Tandang Sora Shrine and Himlayang Pilipino

(h) Existing Places of Employment

- Service workers are confined only at Visayas-Tandang Sora Avenues and Mindano –Tandang Sora Avenues

(i) Development Constraint

- Narrow and limited access roads leading to and from the study area
- Incomplete development of Republic Avenue
- Informal settlements in some parts of the study area

(j) Development Potentials and Policy Interventions

- Public utilization of Congressional Avenue Extension to lessen the traffic flow along Visayas and Tandang Sora Avenues
- Improved quality of physical environment and social infrastructure that create a good image of the city
- Quality human resources harnessed to their full potentials
- Provision of more primary roads to enhance the accessibility of the area and thus encourage property owners to invest in improving their property

A more detailed information on the transitional areas are given in *Annex 5.3.*

6.4 Special Development Areas

6.4.1 Banawe Street Special Economic Growth Area0

In the years after World War II, the City of Manila expanded eastward. As the area next to Manila, the areas around Banawe, G. Araneta, and Del Monte were places of choice for many of Chinese descent in search of a suburban sites. Then, these Filipino Chinese resident businessmen began to establish small retail stores/shops in the area's immediate vicinities, along major thoroughfares. The Banawe Street in particular was their center of trade which developed and became popular as the "Auto Parts and Accessories Capital of the Country". Today, several Fil-Chinese restaurants have also sprouted along the site adding on to the area's growth. Because of the Chinese ancestry of many traders and residents in the area and their invaluable contribution to the city's economy, the site is now be-

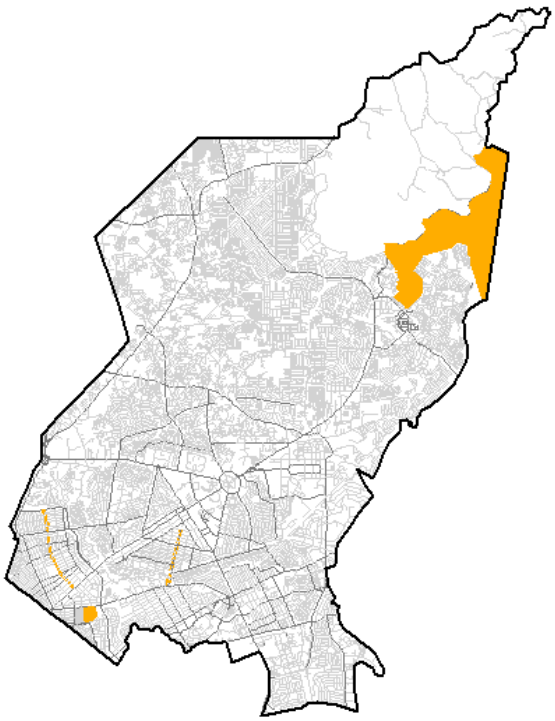

Fig 31: **Special Development Areas Map**

ing promoted as the Quezon City Chinatown pursuant to City Ordinance SP No. 1573, s-2005 declaring Banawe Avenue as Special Economic Growth Area (Banawe Filipino-Chinese Business District) and City Resolution No. SP-3039, s-2005 seeking to strengthen the economic base thru strong partnership with the community.

The Banawe Street (lot deep from E. Rodriguez Sr. Avenue to Sgt. Rivera St) is a concrete paved road with 20 meters road-right-of-way. It measures approximately 3 kilometers in length and straddles seven barangays of District I and IV. The area is to be promoted as another tourism destination, its distinctive urban character, physical environment and cultural heritage shall be further enhanced by permitting compatible commercial uses along Banawe Avenue and encouraging these developments to spread out in its immediate vicinities.

The project site is classified as Major Commercial zone (C2) in view that commercial establishments are concentrated. There are also significant concentration of industries at the northern portion bordered by Sgt. Rivera St. and Del Monte Avenue.

The city government in consultation and coordination with the members of its Fil-Chinese community undertakes the improvement and beautification of the site.

6.4.2 Tomas Morato Avenue Special Development Zone

The 1.7 kilometer stretch of Tomas Morato (lot deep from E. Rodriguez Sr. Avenue to Scout Albano) has been developed into a fine dining destination where restaurants cater not only to city residents but also domestic and international tourists and visitors.

It is located in the 4th district and traverses six (6) barangays: namely Kristong Hari, Obrero, Sacred Heart, Kamuning, Laging Handa and South Triangle.

To maintain the present character of Tomas Morato Avenue and be recognized as the "City's Restaurant Row", an Ordinance was enacted to re-classify the area as Special Development Zone (Ordinance No. SP-505, s-1997). It is governed by the General District requirements applicable for Major Commercial (C2) Zone with additional requirements for parking.

At present, the improvement of frontage and sidewalk of the area was developed in uniform design by the city in consultation and cooperation with business owners. Augmentation of traffic enforcers is being undertaken at site to maintain peace and order particularly during night time. Included also is the re-routing of public vehicles and use of side street easement or parking area particularly during peak hours.

The city government in consultation and coordination with the members of its Fil-Chinese community undertakes the improvement and beautification of the site.

6.4.3 La Loma Lechoneros Zone

The area is the Southwest portion of the city, traversing five (5) brangays (Paang Bundok,

Salvacion, NS Amoranto, San Isidro Labrador and Maharlika) by its mainroads – NS Amoranto Ave and A. Bonifacio Avenue. The "lechonan arae" particularly located along Cavite and NS Amoranto Streets has become popular with the existence of the lechon industry (Roasting & retailing of roasted pig) since the mid 1950s. The industry progressively grew, contributing to the area's economic growth but which at present is now in a poor state with the area requiring immediate redevelopment.

The site has become a priority area for development as a Lechon Business Center to serve as one of the tourist spots in the Metro Manila (as provided in City Ordinance No. SP-1221, S-2002). Another important landmark on-site is the La Loma Cockpit (a place of the typical centuries-old sport in the Philippines, known as "sabong" (cockfighting). The cockpit arena is said to be more than 60 years old. The "sabongeros" were the first regular customers/patronages of the early lechoneros.

6.4.4 Quezon Institute Heritage Conservation

(a) Location

It is located along E. Rodriguez Sr, Blvd., bounded on the west by E. Jacinto Street, 1 Block deep of G. Araneta Ave. and on the south by Bayani Street, Bgy. Dona Imelda, this city. It covers a vast tract of land consisting of five (5) lots with an aggregate land area of 184,853 square meters owned by Philippine Tuberculosis Society, Inc. (PTSI).

(b) Historical Background:

Quezon Institute (QI) is then the country's specialty hospital for the treatment and prevention, not only of pulmonary tuberculosis, but other complicated chest diseases as well. Considered as one of the oldest hospitals in the country. Established in 1918 with barely 15 to 20 rows of nipa shacks as their hospital facilities, these were later converted to wooden buildings.

The hospital building was designed in 1930s by Arch. Juan Felipe Nakpil, a National Artist. This was built following a stately and symmetrical design concept. A grand avenue leads to the two-storey main building accentuated by strong Art Deco influences and geometric details. It was formally inaugurated on August 19, 1938 as a 200-bed tertiary pulmonary training hospital. It became the center of excellence in the management of lung ailments particularly Tuberculosis before the establishment of the Lung Center of the Philippines in Diliman.

To date, the PTSI has been managing the affairs of the institute. Half of the property is leased to the Philippine Charity Sweepstakes Office (PCSO) for the agency's office and transacting public.

(c) Zoning Classification

The PTSI property was formerly zoned as Institutional based on the 2000 Quezon City Zoning Ordinance. In 2003, when PTSI lost support and assistance from government funding agencies, a portion (26,654 sq. m.) of the QI compound was converted per City Ordinance SP-918, S-2000 as amended, into a Major Commercial Zone (C-2). This is now occupied by Puregold Supermarket. That portion of the property was transformed into a performing asset to generate funds to support the operation of the charity hospital.

Consequently, in 2004 the entire property has been reclassified or rezoned from Institutional to a Major Commercial Zone (C-2), the area being compatible with the existing land use pattern and zoning within its vicinity.

(d) Existing Condition

The Q.I. compound is entirely enclosed with CHB fence with the following improvements: 2-storey U-Type building, the mid portion serves as the Main hospital building and Administration Office of PTSI. The right wing houses the hospital patient rooms while the left wing is being occupied by PCSO. A portion along E. Rodriguez was

provided as parking space for PCSO. An abandoned building also exists right at the back of the Main building.

Generally, a large portion (approx., 59,099 sq.m.) of the QI property is considerably vacant, covered with grass, plants and big trees like acacia. The west and south peripheries of the compound are encroached upon by about 937 informal settler families (ISFs) in 736 structures. There is also one covered court and a building said to be occupied by PHILHEALTH.

Within the vicinity of the QI compound are various commercial establishments ranging from 2 to 5 storey buildings specifically, along E.Rodriguez Sr. Blvd. and G. Araneta Ave., while on the western part are residential areas of Bgy. Dona Aurora and Bgy. Santol. A housing project at the south-western tip of the compound was also noted.

(e) Intervention

- Preservation of QI Buildings and Premises

While the Quezon Institute property has already been reclassified as Major Commercial Zone(C-2), it has a potential for a Mixed-Use Development with Heritage Conservation Component to restore and preserve the existing buildings and premises together with residential and a mixture of retail and wholesale trade.

Heritage conservation enhances progress and modernization, from urban revitalization and community housing, to the revival of traditional crafts and the stimulation of entrepreneurial activities. It awakens cultural and historical awareness, which often enhances tourism.

The transformation of these buildings into a heritage site would require close collaboration with appropriate agencies such as the National Historical Institute, the Quezon City Government and the PTSI.

6.4.5 Payatas Special Development Area

As early as 1995, the city government came up with the Payatas Special Area Development Framework Plan (Annex 5.4) and Payatas 2000 (Annes 5.5) covering the physical (including the environmental improvement) social, economic and organization development of Payatas. The Plan became the basis of services, programs and projects being implemented in the area. Significant among these programs are the Socialized Housing, Ecological Solid Waste Management , Health Improvement and Educational Improvement

(a) Description of the Area

The study area is strategically located. It is within the city's North-Eastern periphery along the boundary of Rodriguez and San Mateo. It has a total land area of 915.83 hectares covering the Barangay Payatas and Barangay Bagong Silangan excluding the lot deep boundary along Batasan Road. It has numerous developed subdivisions like Filinvest II, Fil Heights Spring Country Homes, Filinvest Homes II, Mountain View Subdivision, Violago Homes Batasan and Violago Park Homes. It has an estimated population of 222,083 based on the population projection of the National Statistics Office

(b) Outstanding/Unique Features (Landmark)

Once one of the largest open dumps in the Philippines, Payatas is now a shining example of sustainable waste management and favorite learning area for environmentalist and students. It is the first open dump to be converted into a controlled disposal facility. Moreover, it also pioneered the extraction and future commercial utilization of methane gas. As a result, a 100-kW pilot methane power plant has been built and became the first registered Clean Development Mechanism project under the Kyoto Protocol in solid waste management in the Philippines and Southeast Asia.

The availability of undeveloped land is attracting interest among private sector groups such as businessmen and real estate developers to participate in the development of Payatas. The possibility is open to utilize the innovative land development schemes such as Land Readjustment, Joint Venture and Land Swapping, etc.

The Gen. Licerio Geronimo Park formerly Gen. Henry W. Lawton Park memorializes the remarkable heroic act of Gen. Geronimo during the battle of San

Mateo on December 19, 1899 where he killed Gen. Henry W. Lawton and 13 American officers.

(c) Present Functions

- Solid Waste Disposal

The Payatas Dumpsite is situated in the Northern part of the area some 3 kilometers from Commonwealth via Litex Road. It occupies more than 13 hectares of entirely private properties. An estimated 2,000 cubic meters (924 tons) of garbage is being dumped in Payatas daily by the residents of Quezon City.

- Residential Subdivision

The big portion of the area has been developed into residential subdivision like Don Carlos Heights, Manila Remnants, Doña Nicasia, Empire Subdivision, Capitol Homes II, Amlac Ville Subd., Violago Homes Parkwood Subd., Madrigal Subd., Manahan Subd., Filinvest II, Mountain View and Villa Gracia Homes.

- Socialized Housing Project

The presence of about fifty (50) Community Mortgage Program (CMP) sites in Barangays Payatas and Bagong Silangan contributed to the development of Payatas area that utilizes an innovative system of mortgage financing whereby beneficiaries, through the concept of community ownership, may acquire a privately-owned undivided tract of land. Financing through the CMP is intended primarily to assist residents of blighted or depressed areas or the urban poor.

(d) Remarkable Constraints And Development Potentials

- Potentials

  - The availability of vast tract of land to implement housing projects under RA 7279 or UDHA and its various community facilities.

  - The existence of various government and non-government organizations providing services to the area and the community-based organizations to be tapped in the development efforts.

- Constraints

  - There is weak coordination among concerned groups and agencies resulting in overlapping and concentration of services in some areas and inadequacy or total lack in other area.

  - The adverse claims on the ownership of certain parcels of land contribute to uncontrolled entry of migrants and spread of unplanned communities, the lack of road rights-of-way to access inner areas facilitate local circulation and regional network integration, and difficulty of entry of utility services like electricity and water supply.

  - The existence of several people's organizations results in conflicts in representing the community.

(e) Functions to be Retained or Strengthened

The solid waste management system that resulted in an improved environment is also expected to have a 200-kilowatt power generating capacity fueled by methane emitted from the decomposing

waste from the site. The project will save fuel cost since methane is taken for free. It will electrify the city's waste dump operation while excess power will be sold to the power grid. Some of its many benefits include contributing to green house gas reduction by capturing methane, reducing and eliminating fire and explosion hazards, improving slope stability, thus reducing trash slide ,improving compaction of the dumpsite due to the removal of biogas and improving local air, water and soil quality.

(f) New Initiatives

There are initiatives from government and non-government agencies. The Department of Science and Technology has begun to pilot test a project to convert residual plastic into bricks. Likewise, the Holcim Cement discovered to reduce the volume of garbage by utilizing used tires dumped at the disposal facility as an alternative fuel in the production of cement, the project known as Used Tire Retrieval.

(g) Policy Interventions

- Road-link to cross Marikina River
- Need to regulate the pace and intensity of development because the area is still utilized as active waste disposal site. Even after closure the use must be limited to temporary activities until the gas deposit is thoroughly extracted. The old Payatas Controlled Facility and the Sanitary Landfill upon closure shall be developed and managed as a green area and form part of the Green Lung Network.
- Land banking to support the Socialized Housing Program and Infrastructure Development.
- Operational community-based DRRM Plan
- Post-closure management plan for the existing sanitary landfill which is expected to close in the immediate future

7 THE GREEN LUNG NETWORK

Open space or the unbuilt environment, especially when put under vegetative cover performs a vital function as life support system in any human settlement. Among other things, it supplies fresh air, fresh water, fresh food and digests the water generated in the built environment. Because of this vital function open space is treated in this CLUP as legitimate land use to be preserved and protected in order to maintain a proper balance between the built and the unbuilt environment.

This chapter is devoted to the identification and protection of the biggest expanse of open space that serves as the "green lung" not only for the city but also for the entire metropolis and beyond.

7.1 The Green Lung of the Metropolis

Quezon City is endowed with the most extensive expanse of open space and greenery in Metro Manila. In relative terms open space takes up about one-fifth of the total land area of the city. Considering that the city accounts for one-fourth of the metropolitan land area its share of open space even in absolute hectarage is unmatched by any other city. The inventory consists of major and special parks that are themselves unique in terms of size, features, and even biodiversity; historical parks and shrines; community and neighborhood parks; green pockets and strips; and street parks. It also includes reserves and potential areas adding to the City's expansive network of open spaces like institutional grounds (UP, Ateneo de Manila University, Miriam College, Congress, and the like), golf courses, corridors or right-of-ways and river easements.

7.1.1 Major and Special Parks

(a) Quezon Memorial Circle, the Remaining Core of the "Garden City"

Quezon City was envisioned to be a "Garden City" in both the Frost Plan of 1941 and the Master Plan for the Capital City of 1949. In the plan prepared by A. D. William and Harry T.

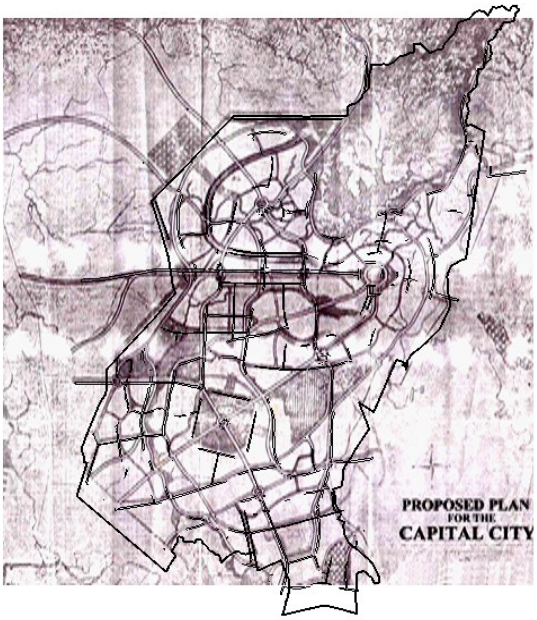

Fig 32: **1949 Capital City Master Plan**

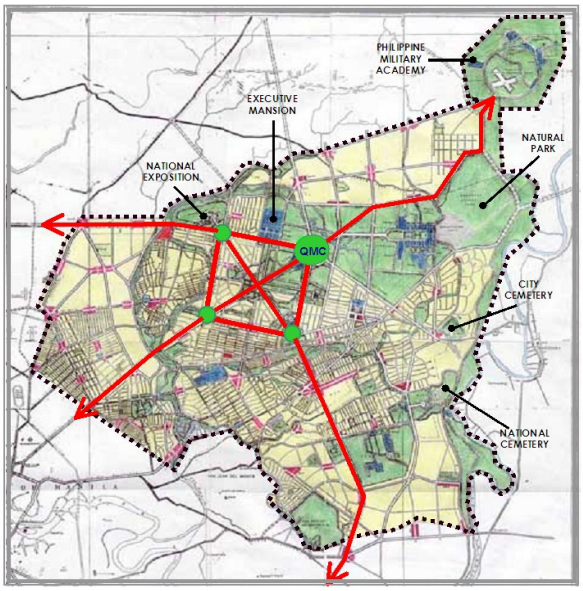

Fig 33: **1941 Frost Plan**

Frost before the war, recommended that parks and greens be provided all over the City. It reflected a massive, contiguous green area emanating from the rotunda (Quezon Memorial Circle), sprawling eastward to embrace the UP Campus, a huge Natural Park in the vicinity of what is now the Balara Filters Complex and extending northeast-ward to the proposed Philippine Military grounds. Extensive greenbelts were proposed on the east bordering Marikina River and along the other rivers. There were also provisions for recreational and institutional greens scattered in many parts of Quezon City.

The 1949 Master Plan for the Capital City retained the Garden City concept. It contained generous provisions for parks and greenbelts all over the City, allocated land for ample parks and greenbelts for future unforeseeable and unanticipated uses. The Plan prescribed the establishment of sufficient parks and recreational areas in the following areas:

- A Central Park of about 400 hectares in the Diliman Quadrangle, one-half for a Park and Botanical Garden including a Zoological Garden and the other half for a golf course and a stadium;
- A North Park consisting of 80 has. in the northern section of the city and another 80 hectares in the south portion;
- Parks and greenbelts along rivers and creeks;
- A system of playgrounds in the neighborhood units; and
- A minimum of one athletic field in addition to those in the playgrounds of public schools for each neighborhood unit and a bigger one proposed for each district of the city.

The physical structure of Quezon City indicates early adherence to the Master Plan like the establishment of the Diliman Quadrangle (East, South, West and North Triangles) with the biggest rotunda at its northeastern corner and from where roads emanate like the rays of the sun. The Central Park was never realized as several proclamations and orders were issued and rescinded transferring the Park's administration from one government agency to another and altering its size many times. As the 1969 study of the Philippine Institute of Architects' Special Committee on the Memorial Park noted, "it appears that the behavioral basis of decisions in proclaiming and rescinding the orders were not governed by any broad awareness of the benefits and consequences that a park or open space can give to an urban population. There is a very likelihood that the orders reducing the size of the Quezon Memorial Park were based on an over-optimistic sense that large portions of Quezon City are still undeveloped and that the need for a park is not urgent as is required.

The 25-hectare Quezon Memorial Circle (QMC) together with the Ninoy Aquino Parks and Wildlife Center and a mini-forest located between the Central Bank and the Lung Center serves as the remnant of the Central Park of yore. For all intents and purposes, it is the core and unifying element of the city's open space network system not only because of its historical importance but also because of its strategic location and high visibility.

The QMC today is perhaps the most visited park in the city. It attracts people from all walks of life, young and old alike. Its components and amenities include the following:

- Quezon Memorial Monument (Pylon) and shrine – the central element of QMC and the reference point for all development programs, projects and activities
- 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
- A city museum which will soon be constructed

Table 7.1 : ***Visitor Traffic and Income Generation***

Year	Ninoy Aquino Parks & Wildlife Center	
	No. of Visitors	90Income Generated (P)
2006	349,810	3,103,735
2007	347,359	3,126,201
2008	407,949	4,094,179.29
Total	1,105,118	10,324,615.29

(b Ninoy Aquino Parks and Wildlife

The Ninoy Aquino Parks and Wildlife Center (NAPWC) is the only zoological and botanical garden with an area of 19.29 ha. located at the southwest of the Quezon Memorial Circle. According to a 2009 report of the NAPWC, it housed at that time some 38 species of trees and shrubs which are represented by 2,443 trees commonly found in Philippine forests. It also kept 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 available for conferences, meetings, seminars, etc. and children's playground, visitor's center, a man-made lagoon for fishing, a rock garden and a craft village.

(c) La Mesa Watershed

The La Mesa Watershed is the last remaining forest of its size in Metro Manila. With an area of about 2,500 hectares, it was declared as Watershed Reservation with the issuance Presidential Proclamation No. 1336 on 25 July 2007. Previously, the La Mesa Watershed was under the jurisdiction of the Metropolitan Manila Waterworks and Sewerage System (MWSS) from 1971 by virtue of Republic Act No. 6234 until 2007. By virtue of Presidential Proclamation No. 1336, the Watershed is now under the joint administrative jurisdiction, supervision and control of the MWSS and the Department of Environment and Natural Resources (DENR).

The watershed is composed of a variety of ecosystems and is habitat to more than 170 species of Philippine flora and fauna that are categorized as either abundant, endemic or indigenous and critically endangered, endangered or vulnerable. The species diversity for flora is favorably diverse while trees or forest biomass is of normal diversity that is comparable with that of the Taal Mountain Range-Laurel area. The avian species diversity is relatively moderate.

In view of the worsening state of the environment in Metro Manila and the degradation of the Watershed, the ABS-CBN Foundation, Inc. launched "Bantay Kalikasan" (Nature Watch) which aimed at revitalizing the 2,500 ha. largely denuded La Mesa Watershed. It also sought to promote and sustain the La Mesa as a watershed of immense resource and educational value. To date, 72 endemic Philippine tree species have been planted by a total of 20,000 volunteers in 1,344 ha. of the watershed.

One of the major attractions in the area is the 30-Hectare La Mesa Ecopark Resort, a joint effort of the ABS-CBN Foundation with the MWSS and the City Government. It has combined 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. Amenities include the Orchidarium, Butterfly Garden, Hanging Bridge, Picnic area and Eco-trails.

(d) Community and Neighborhood Parks

Most accessible to the residents are the

community and neighborhood parks which were largely subdivision open spaces intended for park functions turned over to the City Government by subdivision developers or owners in compliance with the requirement of the Subdivision Law.

A community park is characterized by the Parks Development and Administration Department as having the size enough to accommodate residents of the community and adjoining barangays with the following features:

- 30-40% planted with trees, grass and ornamental plants

Table 7.2 *:*
Developed Parks by Type and District, Quezon City: 2008

Type	Number of Parks				
	Dist I	Dist II	Dist III	Dist IV	Total
Community Park	29	145	33	24	231
Neighborhood Park	13	10	6	3	32
Major/Special Park	-	1	1	6	8
Historical Park	2	3	-	1	6
Street Park	1	1	4	3	9
Total	**45**	**160**	**44**	**37**	**286**

- Concrete walkways, benches, picnic tables
- Standard multipurpose hall (6x9m)
- 1-2 standard concrete court pavement, open or covered with lighting facilities
- Park lamps, perimeter lights
- Standard comfort rooms, garbage bins
- Standard concrete stage
- Integrated plan system with sand bedding and CHB enclosure
- Standard entrance arch
- Provision for ramps

A neighborhood park is a small, single-purpose park, usually 0.48 ha. or less, used primarily for passive recreation, having the following:

- 10-20% green
- 2-3 Individual playground equipment
- 4-6 Concrete bench
- Park lamps

The QC Parks Development and Administration Department (PDAD) reported that 231 community parks and 32 neighborhood parks are either developed or partially-developed. District II has the most number of these parks. *(See Table 7.2)*

The PDAD report also indicates 285 parks of various sizes and locations that remain undeveloped for such reasons as they are encroached upon by structures mostly of informal settlers, they are yet to be donated to the City Government, and the like.

(e) Historical Parks

The known historical parks of Quezon City are the Pugad Lawin Shrine, Tandang Sora Shrine, A. Bonifacio Monument, Gen. Geronimo Monument, Bantayog ng mga Bayani, and the People's Power Monument.

(f) Park Strips along Rivers and Creeks

The City's land surface is crisscrossed by an extensive network of rivers and creeks. These linear water bodies have an estimated total length of 191 kilometers. The recovery and development of at least 3-meter strip on both sides is expected to generate at least 114 hectares of parks.

(g) Linear Parks

Linear parks of regional importance include easements of power transmission lines, aqueducts, center islands and tree-lined boulevards and sidewalks. The Botocan Transmission line has an area of almost 35 ha. while the Balintawak Transmission line has an area of more than 23 ha. for a total of 58 ha. The aqueducts have a total area of around 65 ha. A po-

tential area that will provide additional green is the non-buildable 5-m easement on both sides of the faultline running along the eastern border of Quezon City.

(h)Institutional Grounds

Quezon City is host to huge university campuses such as those of the UP Diliman, Ateneo de Manila and Miriam College and recreational greens of major institutions such as Camp Aguinaldo, Camp Crame, Veterans Memorial Medical Center and the privately-owned Capitol Hills Golf and Country Club . These patches of greenery in a vast metropolis provide a breathing space for the burgeoning population. They also provide refuge to various wildlife that maintain a normal level of biological diversity despite the constant threat of creeping urbanization.

(g) Payatas Controlled Facility and the Sanitary Landfill

The land revitalization approach is being employed to promote the clean-up and reuse of the closed 25 hectare Payatas controlled disposal facility and the existing 3.5 hectare Sanitary Landfill upon its closure. The entire area is being kept free of intensive development and is managed as a green open space to be integrated in the Green Lung Network. To contribute to reducing GHG emission.

7.2 Integrated Open Space System

Maintaining the role of the Green Lung of the Metropolis means more than accounting for the largest share of greenery to total land area. It also means seeing to it that the parks and open spaces are really functional in that they are being used and patronized by the people for recreation and other social activities and interaction.

The City should seek a meaningful system of public spaces consisting of a complementary set of parks and open spaces that satisfies the broadest range of community interests and needs. It is important to look at the relationships and connections of the different parks and open spaces and consider how they can serve certain needs at certain levels of the community. Neighborhood parks and school grounds, for example, can provide children the easily reached space for play. QMC and Ninoy Aquino Parks and Wildlife Center are the places to go to if families prefer to have a picnic, longer walking, or the more physical aerobics; watch programs or shows, take a park ride; or meet other people. The La Mesa Eco Park is the destination for more serious nature-communing, swimming, and other adventures. On weekends, people can join throngs of joggers, bikers and frolickers at the academic oval of UP in Diliman.

There are still areas in the city that do not have any park within the residents' walking or very short commuting distance. More open spaces will have to be developed to fill in this gap; but more than enlarging the capacity of the system, it is essential to link the different parts of the system in order for them to work better towards improving the quality of life in the city. Major and community or neighborhood parks should be linked together and connected to activity centers like places of residence, schools and employment centers. In this sense, the Green Lung Network is comprised of different categories of parks and open spaces that are interdependent and are functionally linked by well-kept and landscaped roads, linear greenbelts and park strips. High priority will be given to protecting lands that can physically and functionally link open spaces. These lands consist of river easements, aqueducts, transmission lines, fault lines, and roads.

The vast La Mesa Watershed will be linked to the QMC at the heart of the city by the green-lined Commonwealth Avenue, aqueducts, and rivers. The streets surrounding and radiating from QMC will be greened and made walkable, and interconnected by underpasses and overpasses**,** creating a continuum of connection to the other parks and the rest of the city. A grand promenade linking the

green grounds of UP with QMC and the planned Central Business District is an interesting feature of the Green Lung Network. Community and neighborhood parks will be linked to schools and residences by pedestrian-friendly sidewalks and passes. The major thoroughfares along with their green center islands and sidewalks and developed park strips along rivers and creeks and making right-of-ways of aqueducts and power transmissions lines and easements of the fault lines will complete the chain linking all the open spaces and parks in the city. *(See Fig. 34.).*

7.3 Environment Protected Areas

Environmental Protected Areas (EPA's) are environmentally-sensitive zones where limited activities could be allowed. The essential components of the Green Lung Network which are treated as EPA's are the following:

- The La Mesa Watershed declared a Watershed Reservation under Presidential Proclamation No. 1336, S-2007 of President Gloria Macapagal-Arroyo.
- A green buffer strip along Litex Road and adjoining the perimeter fence of the La Mesa Watershed
- Ninoy Aquino Parks and Wildlife Center declared by virtue of Proclamation 723, S-2004 as Protected Area and component of the National Integrated Protected Areas System.
- UP Arboretum containing an area of 16 hectares in UP Diliman is the last remaining rainforest in Quezon City, supporting a diverse collection plants and wildlife. The 2012 UP Land Use Plan designates the area as a Protected Forest Area.
- West Valley Fault Greenwedge consisting of the area within 5 meters both sides of the faultline where development except greening shall not be allowed.

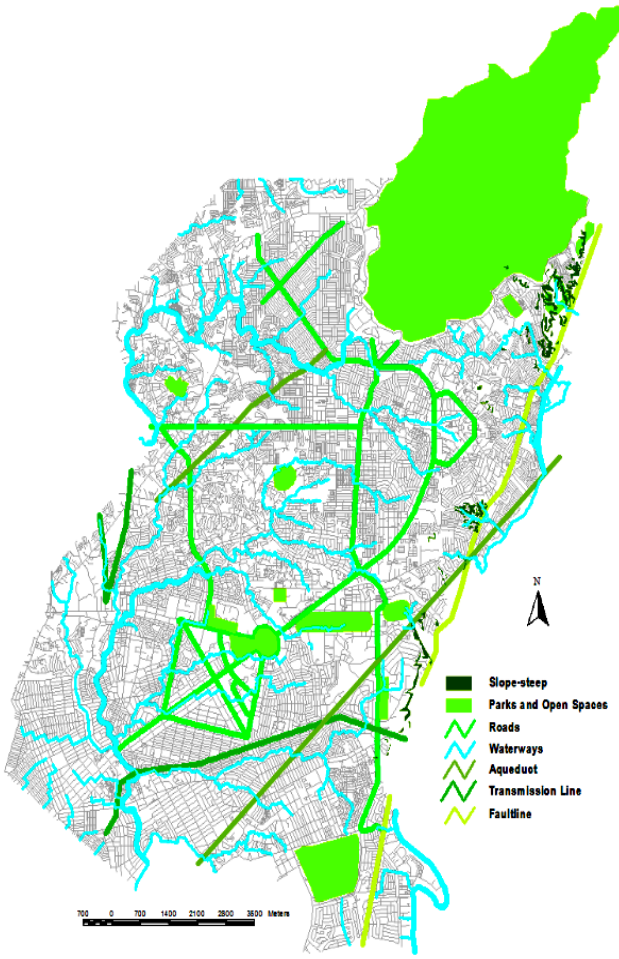

Fig 34: **Green Lung Network**

8 THE PROPOSED CIRCULATION NETWORK

The circulation network, existing and proposed, constitutes a very vital component of the CLUP. Roads are the essential life-line for existing communities and economic activities. But more importantly, from the point of view of this CLUP, roads (and for that matter, railway lines) are used to shape future development because wherever roads are built private investments will follow sooner or later.

To ensure maximum accessibility for every part of the city, there are five (5) circulation networks established in this Plan:

1. External ingress and egress
2. City-wide circulation network
3. Inter-growth center links
4. Linkage between growth centers and the non-growth areas
5. Circulation within each growth center

The succeeding sections will analyze each of these networks and where appropriate propose measures to improve their functionality.

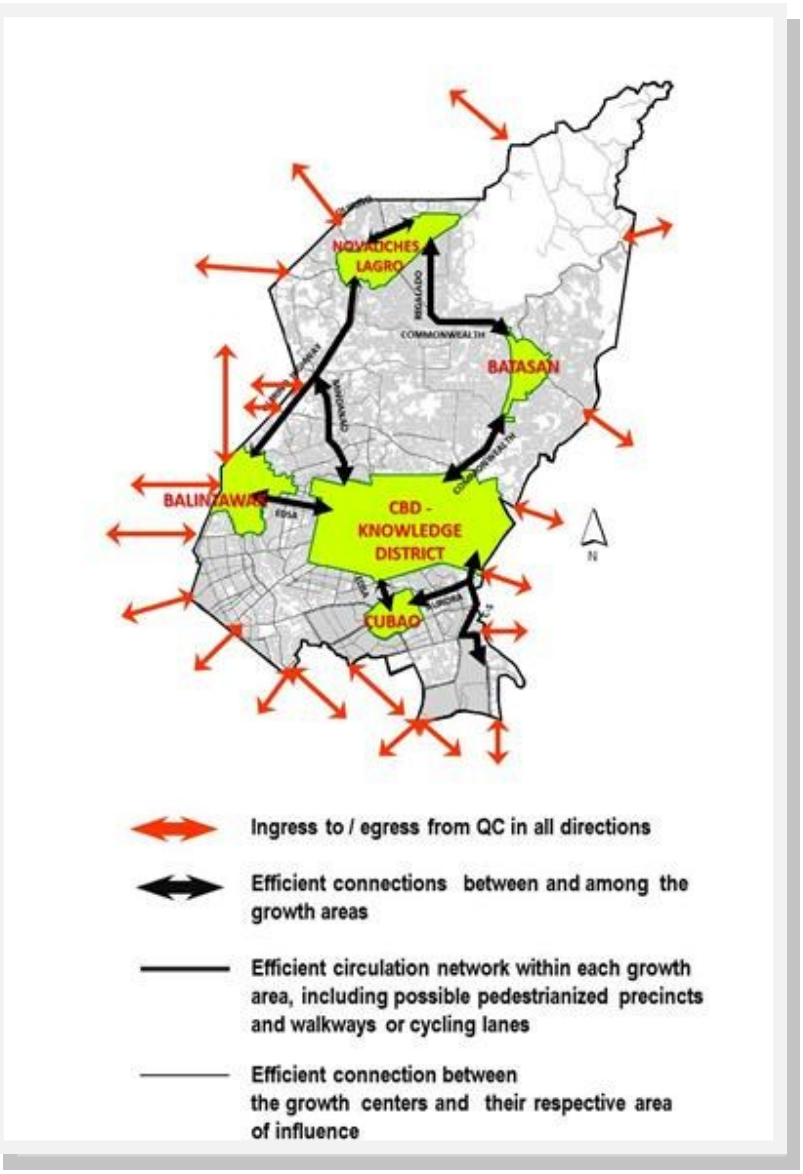

Fig. 35: **Proposed Circulation Network**

8.1 Ingress and Egress

Access to and from Quezon City to the rest of Metro Manila and its environs is possible by means of several existing major public thoroughfares and light rail transport systems. These include:

(a) EDSA – the short name for Epifanio delos Santos Avenue, a 50 meter wide divided highway with 5 lanes each direction linking the City to the neighboring cities of Caloocan, Valenzuela, Malabon and Navotas at the west and to the cities of Pasig, Mandaluyong, Makati and Pasay at the south. The international and domestic airports in Pasay City are also accessed via EDSA. EDSA is also known as Circumferential Road 4 (C-4) of Metro Manila. Public buses ply EDSA destined to as far as Alabang in Muntinlupa City at the south, Malabon at the west and Fairview at the north.Provincial buses to north and south Luzon

provinces also have terminals along EDSA. The Metro Rail Transit Line 1 is sharing this west-to-south route from Caloocan City to Pasay City thus greatly complementing the capacity of this route. Being the main entry-exit point of the North Luzon Expressway, EDSA can also be considered as the primary gateway not only of Quezon City but of Metro Manila to northern Luzon.

(b) General Luis Avenue – a 15 meter wide, 2 way, 2 lane road at the northwest of the City providing additional access route to Caloocan City and Valenzuela City. This road also has access to the North Luzon Expressway which is an important link to the agricultural regions in northern Luzon. However, this link towards the northwest is considered weak being only a 2-lane road, the only main road serving this part of the region and is even further congested by cargo trucks and public utility jeepneys regularly plying this route which passes through industrial zones and dense residential communities. Widening this road to at least a 4 lane road would greatly ease access in this northwest district of the City.

(c) Tandang Sora Avenue – another road link at the mid north of the City to Caloocan City and Valenzuela City is this 12 meter wide, 2 way, 2 lane road. Like General Luis Avenue, this route is also considered a weak link due to its narrowness and congested load as it passes through dense residential areas. The road is also a truck route. It crosses the expressway but has no entry or exit thereto.

(d) Mindanao Avenue – this 38 meter wide double carriage way road was recently interconnected to the North Luzon Expressway via the Circumferential Road 5 (C-5) to become another important access to north Luzon regions and also as a new link to Valenzuela City.

(e) Araneta Avenue and Sgt. Rivera Avenue – are 38 meter wide major roads which form part of Circumferential Road 3 (C-3) at the southwest portion of the City that serve as access towards Caloocan City and Manila City and, on the other end, south to San Juan City.

(f) Bonifacio Avenue – a 20 meter wide 6 lane divided road along the western boundary of the City that leads to the sea ports in Manila City. In the Metropolitan perspective, this is part of Radial Road 8 (R-8).

(g) Quezon Avenue – a divided road with varying width of 40 and 60 meters, 3 to 5 lanes each direction is the main link of the City to Manila City at the south. This road is part of Radial Road 7. Extending northwards through the Elliptical Road, Radial Road 7 connects to the 98 meter wide Commonwealth Avenue which tapers off to 38 meters as it enters Fairview.

(h) Aurora Boulevard – as part of Radial Road 6, this 4 to 6 lane avenue with varying width of 15 to 40 meters also serves as access to the City's southern neighbors: the Cities of Manila, San Juan and Mandaluyong as well as to Marikina City on the east and further to Antipolo City and the other municipalities of Rizal Province via Marcos Highway. The Light Rail Transit Line 2 uses this south-to-east corridor thereby increasing passenger transport capacity of this road link.

(i) Circumferential Road 5 (C-5) – a 38 meter wide, 6 lane divided road is another major road link of the City to the south towards the cities of Pasig, and Taguig, Pateros and down to Paranaque City. This road also serves as major access of the City to the South Luzon Expressway (SLEX) leading to agricultural regions in southern Luzon.

(j) Batasan-San Mateo Road – a 20 meter wide, 2 way, 4 lane road linking the City to the Municipality of San Mateo, Province of Rizal to the east across Marikina River and to the Municipality of Rodriguez (formerly Montalban) as well as to the City of Marikina. Additional access route between Batasan-San Mateo Road and Aurora Boulevard which are about 5 kilometers apart, would improve further access to the City's eastern border.

(k) Payatas Road – a 15 meter wide, 2 way, 4 lane road at the northeast of the City bordering the La Mesa Reservoir links the City to the Municipality of Rodriguez in Rizal Province. This portion of the City also needs additional access preferably between Payatas Road and the Batasan-San Mateo Road which are also about 5 kilometers apart.

(l) Quirino Highway – a 20 meter wide, 4 lane road connecting the City to the northern parts of the region, namely Caloocan City and San Jose del Monte City in Bulacan Province. The proposed Metro Rail Transit Line 7 will use this route from EDSA via North Avenue and Commonwealth Avenue all the way to San Jose del Monte City in the Province of Bulacan.

(m) Camarin Road – a 20 meter wide, 4 lane road branching out from Quirino Highway that provides another access from Caloocan City to the north.

(n) North Luzon Expressway (NLEX) – a 40 meter wide, divided highway, 4 lane per direction connecting the City to the agricultural regions of northern Luzon and also to the Clark International Airport in Pampanga and to the air and sea ports at Subic Bay in Bataan. With access junctions at C-5 and General Luis Avenue, NLEX is also a preferred route used by those from the Cities of Valenzuela and Caloocan.

8.2 City-Wide Circulation Network

For city and area-wide circulation, these primary roads are further extended inwards of the City and spread out by several secondary and collector roads of the local road network. There are 158 kilometers of identified primary roads in the City for a density of 1.67 kms per 100 hectares which is still below the ideal density of 2 kilometers per 100 hectares. For secondary roads and alternate routes, the road-to-area density is 1.49 kms per 100 hectares which is also below ideal.

Notably deficient in primary roads provision is the north central part of the City within District II where the density is only 0.94 kms per hectare. While the areas along Commonwealth Avenue and Quirino Highway can be considered as having good accessibility, most of those in the inner sites are hardly accessible. This area of about 1,000 hectares is characterized by small villages with uncoordinated road lay-outs that make access constricted and circuitous. The 6 to 8 meter wide Sauyo Road can hardly accommodate large traffic volumes in this area, a condition made worse by tricycles plying this road as the only means of public transport. Also in the same condition is Banlat Road at the south portion of this area which is only 6 to 8 meters wide and a tricycle serviced road.

The proposed 98 meter wide Republic Avenue which is part of the C-5 Road and supposed to serve this part of the district in west-east direction remains undeveloped. Also much awaited is the proposed extension of the 38 meter wide Visayas Avenue that would cut north-south through this district which could spur proper development in this part of the City.

Another part where accessibility is difficult is the Payatas – Bagong Silangan area at the north- east part of the City. About 500 hectares of land in this part of the city is land-locked much of it is now occupied by informal settlers. While regular subdivision roads are being developed in this area, these roads are usually for the exclusive use of homeowners of these subdivisions. The construction of a new primary road from IBP Road eastwards to Rodriguez Rizal and the proposed Katipunan Avenue extension northwards from Pansol to Payatas will address this problem of access and circulation in the area.

Also with deficits in primary roads provision is District III where the computed ratio is only 0.97 kilometer per 100 hectares. This lack is mainly at the Pansol - Matandang Balara area. However with the on-going construction of the 38 meter wide C-5 Road segment via Katipunan Ave-

nue in Balara, accessibility is expected to improve.

Circulation and access are also a problem in the Balintawak area due to insufficiency in secondary roads. Balingasa Road (6 meters wide), Kaingin Road (6 meters wide), Apolonio Samson Road (10 meters wide) serve the area south of EDSA. Howmart Road (3 to 6 meters wide) and Oliveros Drive (8 meters wide) are both dead-end roads north of EDSA. Further north is Mendez Road (6 to 8 meters wide) traversing from Quirino Highway on the west to Shorthorn Street to the east. This poor accessibility due to narrow main roads in the area is seen as the main reason for the physical deterioration, stagnant development and growing blight in this otherwise prime urban area. At present, large tracts of land which used to be industrial plants are now underutilized if not abandoned due to access difficulties.

There is need to widen Balingasa Road and Howmart Road to improve access and construct new access roads to open it up for new urban functions.

8.3 Links Between Growth Centers

The City's traditional and emerging growth centers are located along and inter-linked by the existing major thoroughfares.

(a) **Balintawak, the Triangle CBD and Cubao Link** - EDSA serves as the inter connector road between these growth nodes. Together with the light rail system and buses on EDSA, this link between the said three growth centers is considerably strong.

(b) **Triangle CBD, Batasan and North Fairview Link** - Commonwealth Avenue runs between the Triangle CBD and Batasan while further north to North Fairview and Lagro is Regalado Avenue which branches out from Commonwealth Ave. This link is being served by public utility vans and jeepneys and will soon be supplemented by the proposed light rail transit Line 7.

(c) **North Fairview and Novaliches Link** - Quirino Highway, meanwhile connects Lagro and Novaliches. Public utility vans, jeepneys and buses ply this route.

(d) **Novaliches, Balintawak and Triangle CBD Link** - Quirino Highway also links Novaliches to Balintawak or to the Triangle CBD via Mindanao Avenue. These routes are also served by public utility vans, jeepneys and buses.

(e) **Libis, Cubao Triangle CBD and Batasan Link** - As for the Libis area, it is connected to Cubao, to the Triangle CBD and to Batasan by Circumferential Road 5 (E. Rodrguez Jr. Avenue and Katipunan Avenue) which crosses Aurora Boulevard (leading to Cubao) and Commonwealth Avenue (leading to the Triangle CBD and Batasan). Public utility vans and jeepneys serve the Libis – Cubao route via Murphy and Project 4 areas. There is no direct service for public commute from Libis to the Triangle CBD or to Batasan.

8.4 Linkage Between Growth Centers And Non-Growth Areas

By the number of shops and the array of goods, variety of services offered, the functions available and their strategic location, the City's growth centers cater not only to the immediate communities but also to the regional population. (*See Fig. 33)*

The area of influence of a commercial center is determined by the following factors:

(a) Ease of Access.

While proximity is the first consideration, the availability of public transport coupled with the lesser number of ride transfers extends further its influence zone. Should the center be in a popular commuter transfer point, volume of potential customers will even be higher.

Traffic condition along routes leading to the

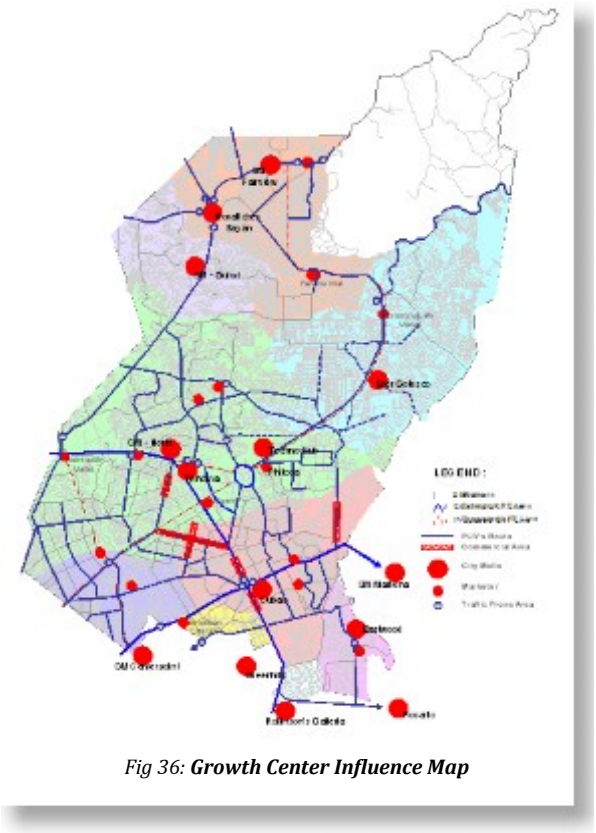

Fig 36: ***Growth Center Influence Map***

area is also an important part in attracting customers. For people with particular needs in going to the center, their choice of place would be affected by the lesser trip time they have to make, whether by car or public conveyance. Here, a center with traffic prone route will less likely be the choice.

For car riding customers, the availability of parking space is added in making a choice. Being more flexible as to which center they would go, such customers would prefer those where parking is ample and less concern is given about distance.

(b) Variety of Goods and Services Available

Most customers usually would go to a center not for a singular purpose of buying a product or availing of a service that could otherwise be availed of somewhere else nearer. The wider array of goods to choose from, the more kinds of services offered and recreational facilities available the more attractive a center is to customers.

(c) Presence of Competition

As a function of distance, the existence of a competing establishment draws the limits of a center's catchment area.

- *Cubao* – located at the crossing of EDSA and Aurora Boulevard which is a popular commuter modal transfer point Cubao started, evolved and grew as a retail, service and recreational hub serving even the residents of eastern cities of Marikina, Pasig, *Cainta* and Antipolo. Its market began to shrink only when new commercial centers opened in those cities (like Sta. Lucia in Cainta and SM in Marikina), alternative routes to those places became available (such as C-5) and lately when commuters to/from Manila can travel directly to Marikina via LRT 2 without need to transfer ride at Cubao. The opening of Greenhills Shopping Center also decreased the influence area of Cubao.

  Cubao is the most convenient destination for shopping, dining and recreation to the residents of Kamuning, Laging Handa, Pinyahan, Sikatuna, the districts of Quirino, Project 4 and Murphy and nearby parts of New Manila.

  The presence of provincial bus terminals in Cubao, along EDSA and inside Araneta Center, is another distinctive feature of the area.

  As for its immediate service area, access to Cubao is convenient mostly by taking jeepneys passing through if not terminating in the area.

- *Balintawak* – this commercial zone is a known depot for agricultural produce (vegetables, fruits, meat and poultry) from northern Luzon provinces. The North Luzon Expressway which has its main entry-exit point here where A. Boni-

facio Avenue going to Manila, Quirino Highway going to Novaliches and EDSA going to west and east of Metro Manila converge, were the factors for Balintawak to prosper in this type of commercial activity. Nearby communities, meanwhile, are linked to Balintawak *through jeepneys and buses along EDSA, A. Bonifacio Avenue and Quirino Highway and tricycles plying the local routes. MRT Line 1 Extension along EDSA will soon operate and would impact Balintawak not only in terms of increased volume of customers but also a challenge for redevelopment in response to prospects of profitability this increased market potentials offer.*

- *Novaliches* – one of the first commercial nodes in the City owing to its good location being at the crossroads of old public roads, namely Quirino Highway, General Luis Avenue and Susano Road. The area is a commuter transfer point for residents around the town and even from neighboring cities of Valenzuela, Caloocan and San Jose del Monte. As such vehicular and pedestrian traffic volume is usually high. Merchandise retailing is the main type of business and a wide variety of personal services can be availed of in this area. Buses, jeepneys and tricycles ply the local routes in and around Novaliches.

  The catchment area of Novaliches is a short radius covering only the nearby barangays and, to some extent, retains those commuters from Valenzuela and Caloocan. This decrease took into account the existence of commercial nodes in Deparo Caloocan, SM Fairview, Robinson's Place and the newly opened SM in Gulod.

- *North Fairview and Lagro* – the area started as a local commercial zone at the corner of Quirino Highway and the main road of Lagro community which, again is a commuter transfer point. Recently with Robinson's then followed by Shoe Mart establishing commercial centers at nearby North Fairview, the area expanded and intensified as a retail, personal services and recreational center with clientele from surrounding communities, Caloocan and as far as San Jose del Monte. Accessibility in the area is good given existing grid-type road network and wide avenues. However, congestion is now becoming frequent at Lagro due to increasing population in the said community and more significantly from Caloocan and San Jose del Monte whose only access is Quirino Highway. The planned Metro Rail Line 7 passing this area towards San Jose del Monte *will greatly increase customer access to the area.*

  As a complete shopping, dining and recreation facility, the market influence of this center extends south until Batasan area, Caloocan and San Jose del Monte at the north and overlaps the north parts of Novaliches. Public buses, jeepneys and vans have terminals in the center and existing road network makes it easily accessible to car riding customers especially so that ample parking areas are available.

- *Triangle Central Business District and Knowledge Precinct* – wide avenues namely EDSA, North Avenue, Elliptical Road, Commonwealth Avenue, West Avenue, Timog Avenue, Visayas Avenue and Central Avenue serve access in and around this growth center. Secondary roads in the area are similarly available and in good condition. However, congestion occurs in such areas as North Avenue corner Mindanao Avenue, Commonwealth Avenue near Elliptical Road and Visayas Avenue corner Central Avenue.

- *Batasan* – Commonwealth Avenue and IBP Road sufficiently provide access to this emerging growth node.

8.5 Circulation Within The Growth Centers

(a)*Balintawak* – Access to interior parts of Balintawak is served by several secondary and collector roads that branch out from EDSA, A. Bonifacio Avenue and Quirino Highway that traverse the perimeters of the area. These access roads have width ranging from only 6 to 10 meters, quite narrow for cargo trucks and vans to pass through. Worst still, Oliveros Drive (8 meter wide) and Howmart Road (10 meter wide but only 3 meters at the corner of EDSA) which service the area north of EDSA are dead-end roads making it more difficult for said industrial vehicles to negotiate. Along Quirino Highway, narrow roads (not more than 6 meter wide) cut inwards to access properties located at the back, no farther than 200 meters from Quirino Highway. This poor access condition in the area has stunted industrial operations and led to deterioration in this more or less 90 hectares of potentially prime urban area.

South of EDSA, the 10 meter wide A. Samson Road located just a block deep and parallel to EDSA is more of a back-street going to the market site and insufficient to provide access to inner parts of the area. Jeepneys ply this road to-from the market and Del Monte Avenue at the adjacent barangay south of Balintawak via Kaingin Road, also a narrow 10 meter wide main road. Balingasa Road a 6 meter wide road at the south fringes of the area is the sole ingress-egress from A. Bonifacio Avenue and is insufficient even for the thousands of residents in the area much less as the main road of an industrial zone. Tricycles serve as the only means of public transport for the inner areas in Balintawak.

(b) *Cubao* - Circulation within Cubao is delimited by EDSA which bisects the area into its west half and east half. The road links between these halves are Aurora Blvd at the mid portion and P. Tuazon Blvd at the south perimeter. With heavy volume along these two roads, link between these two halves is insufficient as manifested by the perennial traffic at these intersections with EDSA. Moreover, additional crossings to link these halves is made difficult with the MRT along EDSA such as at New York St. where the viaduct was constructed on-grade that crossing EDSA could only be feasible either by fly-over or underpass but since New York Street is only 10 meters wide neither crossing structure is practical to construct.

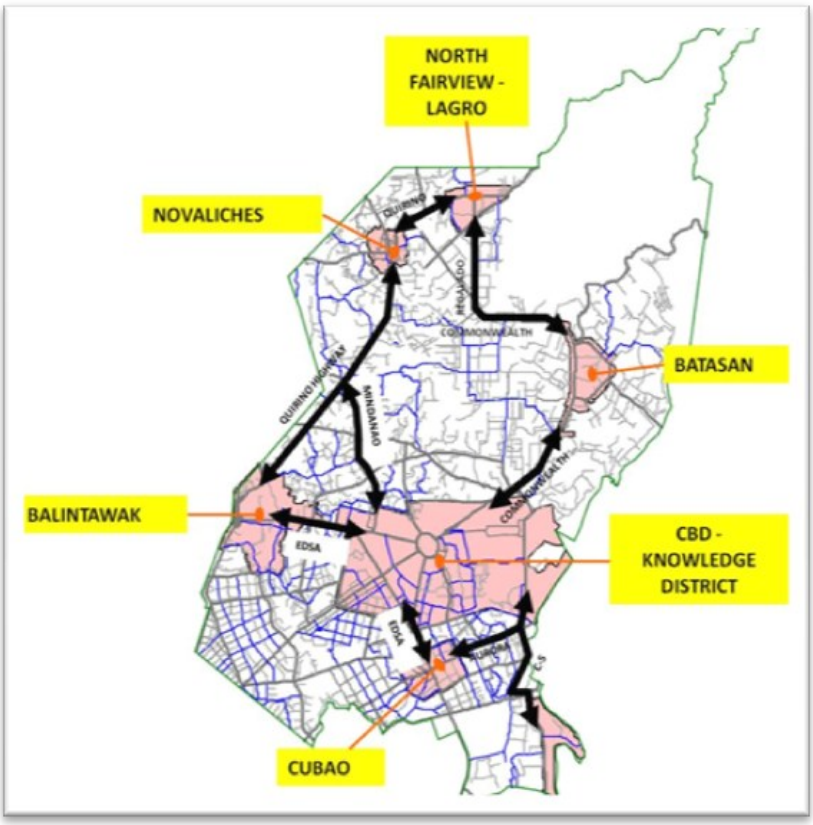

Fig 37: ***Proposed Circulation Network***

Inner circulation in the west half and east half of Cubao area is provided by local secondary and tertiary roads of about 10 meters wide whose regular grid pattern makes it effective enough to disperse traffic and avoid grid-lock. Tricycles ply the inner areas of Cubao except inside Araneta Center.

(c) *Triangle CBD and Knowledge Precinct* – Comprised of large blocks of

distinct developments, each with existing road network for internal circulation, mobility within the area is generally good. As for the 200 hectare North and East Triangles, plans for the proposed CBD include the development of its local road network for efficient district wide circulation.

However, improvements to address traffic congestion in some parts of the area are still necessary. Katipunan Avenue fronting Ateneo, Commonwealth Avenue at the vicinity of Philcoa, West Avenue merging EDSA, North Avenue towards Mindanao Avenue are known traffic bottlenecks.

(*d) Batasan-NGC* – Commercial activities in the area are concentrated along Commonwealth Avenue particularly at the junctions of IBP Road which are commuter transfer points. The area inside this loop is a densely populated low-cost housing community of about 70 hectares served only by 6 meters wide main access roads and extended inwards by even narrower alleys and footpaths. Tricycles are the only means of public transport inside the area.

(e) *Novaliches – Lagro* – As an old town plaza, roads in Novaliches area are mostly narrow, only 5 to 6 meters wide. Only Quirino Highway which has a width of 20 meter carries much of traffic load in Novaliches. General Luis which is also 20 meter wide has a narrow 6 meters opening at its junction with Quirino Highway designated as a one-way street at said portion. Susano Road which proceeds northwards to Caloocan City is also quite narrow and easily gets congested. Jeepneys pass along these main roads in Novaliches and the buses are limited only on Quirino Highway. The area is a bustling pedestrian zone generated by several wet and dry markets, commodity stores, fast-foods and service shops thickly clustered in the center.

Construction of segment of Commonwealth Avenue extension to Quirino Highway is about to commence which is expected to create another commercial node between Novaliches and Lagro specially so that Zabarte Road (road to Camarin) is only 150 meters away from this new main intersection.

9 THE LAND USE PLAN

This Chapter describes the demand for land arising from population growth and the allocation of land for various uses and functions and the reasons for such allocation

9.1 Population and Land Supply

The City's population based on the 2010 NSO Census is 2,761,720. The density (based on the gross land area of the City) is estimated to be 171 persons/hectare. The population is projected to increase to 3.177 million in 2015; 3.715 million in 2020 and 4.187 million in 2025 based on the annual growth rate of 2.42%. Given the largest land area in Metro Manila, Quezon City can still absorb the increase in population without compromising the quality of life of the people. The added population will be accommodated through the orderly densification and redevelopment of existing settlements and development of underutilized and vacant lands. The population density will increase to 197 persons/hectare in 2015; 231 persons/hectare in 2020; and 260 persons/hectare in 2025 which are all within the medium-density range (see Table 9.1 below). The estimated densities in the given periods are way low compared to the 2010 estimated density of 429 persons/hectare of the City of Manila.

Table 9.1: **Population and Density Trend (2010, 2015, 2020, 2025)**

Year	Population (in Million)	Density (person/ha)
2010	2,762 (2010 NSO Census)	171
2015	3,177 (projected)	197
2020	2,715 (projected)	231
2025	4,187 (projected)	260

9.2 Land Available for Development

In determining the area that may be used for development, it is necessary to identify the non-buildable land where development should not be allowed. The area includes the easements of transmission line (66.24 hectares) and aqueduct (152.15 hectares); the La Mesa Dam Reservoir (2,597.04 hectares); the fault zone (11.96 hectares); landslide-prone areas due to steep slope (416.75 hectares); and waterways (186.09 hectares). The non-buildable areas consist of 3,430.22 hectares while the net area considered as buildable has 12,683.36 hectares. See Fig. 38 :Land Suitability Map; Fig 39: Land Availability Map; and Table 9.2: Buildable and Non-Buildable Land.

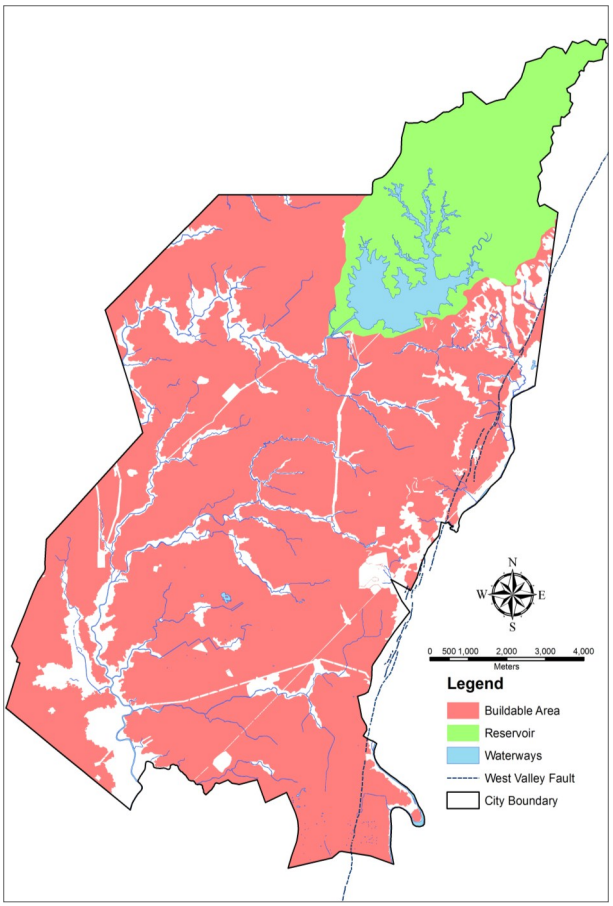

Fig. 38: **Land Suitability Map**

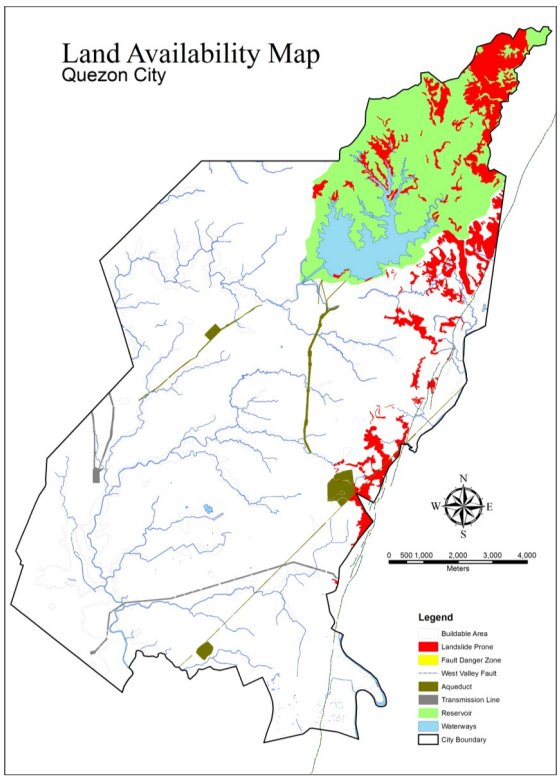

Fig. 39: **Land Availability Map**

Table 9.2: **Buildable and Non-Buildable Land**

Classification	AREA (in has.)	Percent (%)
Non Buildable	3,430.22	21.29%
Transmission Line	66.24	0.41%
Aqueduct	152.15	0.94%
Reservoir	2,597.04	16.12%
Fault Zone (10 meter wide)	11.96	0.07%
Landslide Prone (Steep Slope)	416.75	2.59%
Waterways	186.09	1.15%
Buildable (Net Area)	12,682.36	78.71%
TOTAL	16,112.58	100.00%

9.3 Land Allocation

Land is allocated and distributed in way that promotes the development vision of Quezon City and strengthens the City's role beyond its territorial limits as articulated in Chapter 3 of this Plan.

The area devoted to residential use purposes in the Comprehensive Land Use Plan 2000 was 48.36% (7,791.19 hectares). The succeeding Plan for 2011-2025 is dedicating a total of 41.57% (6,697.49 hectares) for the same use which includes 3.78% (609.04 hectares) for Socialized Housing. There is a negative difference of 6.79%, a change in allocation arising from the need to conserve valuable but limited land resource. To achieve this, the City is encouraging and promoting smart and compact development; hence, more multi-storey dwellings, multi-dwelling structures and higher-density housing projects are expected to establish in the future. With the increasing cost of living, preference for smaller lot sizes, smaller houses and less energy use will grow. Mix-use development will get increasingly popular as its concept of integrating homes with places of work, leisure and play reduces travel time, minimizes energy consumptions, provides a more pleasant living environment, increases productivity and helps in cutting down household expenditure. To further achieve land use efficiency, a significant area of 1,892 hectares in District II which has lagged behind in terms of development is being dedicated to Pasong Tamo Special Urban Development. The extension and opening of Congressional Avenue and Visayas Avenue will contribute in opening up the area for more active development. Areas subject to special urban development are those having distinct or special character needing preservation and protection; those where physical development should be controlled to prevent traffic congestion, deterioration of services, facilities and environment and other problems affecting the general public; and those areas in state of slow growth, underdevelopment or deterioration requiring interventions to promote and hasten their development or improvement.

Consistent with the long-term spatial strategy described in Chapter 4, commercial land use and Special Urban Development use are distributed in various growth centers, non-growth centers and special development areas. The said land use allocations will support the central place functions and services offered by the growth centers to the entire city and the metropolitan population. The non-growth centers and special development areas are expected to serve the land requirements of neighborhood and city level functions and services provided by said centers and areas. The Plan provides an allocation of 8.13% (1,130.23 hectares) for commercial use and 4.03% (649.49 hectares) for Special Urban Development use. The land allocation for commercial use seemingly decreased by 0.10% but in actuality, there is increase in allocation with the inclusion of Special Urban Development which

is a highly mixed-use development where commercial use can be dominant.

Industrial land use has a share of 5.53% (891.68 hectares), lower than the year 2000 allocation of 6.36%. The reduction in land use allocation is due to two main reasons. First is the conversion of some industrial areas to commercial like the change occurring in Libis where industries have closed shop or transferred elsewhere and their land is used for commercial and mix use development. The prohibition of heavy industries in Metro Manila has contributed a lot to the decrease in the number of industries in Quezon City. Second, the growth in the information, communication and technology (ICT) sector is influencing the shift from traditional industry to the so called "Clean Industry", producing ICT-based goods and services. Hence, the rapid emergence of cyberparks and IT buildings and parks in the City.

Institutional land use has an allocation of 6.90% (1,112.05 hectares), which is lower than the 8.17% allocation in the preceding Land Use Plan of 2000. Part of the institutional areas are designated as Special Urban Development areas like the UP TechnoHub and the QC Central Business District in East and North Triangles, thus, the decrease in the area allocation.

Parks and open space land use is given 16.25% (2,618.30 hectares) of the City's land area with 14% coming from the La Mesa Dam Reservoir. The remaining 2.25% consists of parks in the existing settlements and city parks like Quezon Memorial Circle. Deducted from the park inventory is the Ninoy Aquino Parks and Wildlife which is now part of the QC-Central Business District (CBD) Special Urban Development Area. The allocation, however, does not include green spaces in parks that may be generated from the development of river easements, utility easements and areas with commercial, institutional and other functions. When such green spaces are considered, the City has greater land share for parks and green areas which allows ample breathing space to the city inhabitants and helps in reducing greenhouse gas emissions in the city. The greening of waterway easements can generate as much as 591.35 hectares of green spaces, aqueducts as large as 152 hectares, transmission lines more than 66 hectares, and faultline buffer almost 12 hectares.

Land devoted to roads comprise 14.52% (2,337.77 hectares) which is significantly high compared to Year 2000 allocation of 10.58% for roads, rivers and creeks combined. The big difference is due to the following reasons: 1)GIS Mapping improved the database and revealed previously existing roads not identified in the old mapping system, 2)The City Government undertook active road improvement and construction program, developing new roads and improving access, mobility and interconnection, 3) New subdivision uses were developed adding new roads to the inventory;

Other land use allocations are: 1.41% (227.58 hectares) for utilities; 1.13% (182.85 hectares) for waterways; and 0.53% (85.13 hectares) for cemetery.

Refer to Table 9.3: Comparative Land Use Distribution below.

Table 9.3: **Comparative Land Use Distribution**

Classification	2000		2011		DIFFRENCE	
	AREA	%	AREA	%	AREA	%
Residential	7,791.19	48.36%	6,697.49	41.57%	(1,093.70)	-6.79%
Commercial	1,326.61	8.23%	1,310.23	8.13%	(16.38)	-0.10%
Industrial	1,024.60	6.36%	891.68	5.53%	(132.92)	-0.82%
Institutional	1,315.81	8.17%	1,112.05	6.90%	(203.76)	-1.26%
Special Urban Development	-	0.00%	649.49	4.03%	649.49	4.03%
Utility	215.53	1.34%	227.58	1.41%	12.05	0.07%
Parks/Recreational	2,659.67	16.51%	2,618.30	16.25%	(41.37)	-0.26%
Cemetery	74.57	0.46%	85.13	0.53%	10.56	0.07%
Roads/Rivers and Creeks	1,704.12	10.58%	2,520.62	15.64%	816.50	5.07%
TOTAL AREA	16,112.10	100.00%	16,112.58	100.00%	0.48	0.003%

10 COMPREHENSIVE LAND USE POLICY FRAMEWORK

This chapter pulls together all the policy intervention measures proposed for various areas of the city in chapters 5, 6, 7 and 8 into one cohesive framework. This policy framework will then guide the revision of the existing zoning ordinance and the enactment of additional legislation or the issuance of executive orders in order to carry out the proposals in this plan more effectively.

In the formulation of these policies careful consideration was given to the applicable provisions of national laws and higher level policy documents, principally the National Framework for Physical Planning, the Urban Development and Housing Framework, the Physical Development Framework for Metro Manila, the Climate Change Act, and the Disaster Risk Reduction Act (RA 10121) as reviewed earlier in chapter 1.

In more concrete terms the physical development challenges that surfaced from the analysis of land use trends and changes as discussed in chapter 2 were given particular attention.

In areas where higher level policy documents are either silent or non-existent new policies were proposed. It remains to be determined whether these new proposals fall within the prescribed powers of the city government. Those that turn out to be outside the LGU's powers will be taken up for lobbying with higher bodies concerned.

To ensure comprehensiveness of coverage both in topical and geographical terms, the policies are organized under the four land use policy areas adopted by the National Land Use Committee, namely, settlements, infrastructure, production, and protection. To the extent possible, the policies were made place specific, that is, those that pertain to growth centers were distinguished from those that are appropriate for non-growth areas. This is consistent with the spatial strategy as discussed in Chapter 4.

In compliance wih the requirement of RA 9729 and RA 10121 to mainstream DRRM and CCA in the local plans, policies on reducing vulnerabilities and building community safety and resiliency are included in the framework.

Table 10.1 : **Land use Policy Areas and Corresponding Land Use Types, Quezon City**

Land Use Policy Areas	Specific Land Use Types
Settlement	Residential
	R1 , R2 , R3
	Institutional
	National/Regional, , City, Barangay Privately owned for Public Use Hospitals, Health Centers & similar institutions Schools and Other Educational Institutions
	Recreational
	Stadium, Gymnasium, Amusement Houses, Dance Halls
	Cultural
	Public Libraries, Museums, Theaters
Production	Commercial
	C1, C2, C3
	Industrial
	I-1, I-2, Office, Agricultural
	Parks
	National/Regional, City
Protection	Parks
	National/Regional, City, Barangay
	Easement
	Along Rivers/Creeks, Road Right of Ways, Utility Easements, La Mesa Dam and Reservoir, Power Transmission Lines, Aqueduct
	Heritage and Culture Property
	Architectural Gems, Historical Shrines
V. Infrastructure	Circulation Network
	Arterials/National/Metro, City Streets, Street Furniture , Transport Terminals/Depot
	Utilities
	Water Mains Power Distribution Lines, Communication Facilities, Port Offices, Radio, Television Facilities, Gas/Fuel Storage
	Environmental Infrastructure
	Drainage and Sewerage Solid Waste Mgt. System Sanitary Landfill Materials Recovery Facilities Storage Collection and Transport
	Public Safety & Protection
	Police Headquarters and Precinct Disaster Response Operation Center Fire Protection Fire Stations Fire Hydrants Justice Administration Hall of Justice Jails and Detention Centers

Moreover, to facilitate translation of this CLUP into the zoning ordinance, the specific land uses classified under the four policy areas adopted the land use categories in the zoning ordinance. Shown in Table 9.1 are the four land use policy areas and the specific land uses under each policy area.

10.1 Policies on Urban Settlements

Settlement areas constitute what is conceptually known as the space for living (and playing). In conventional land use categories, settlement areas include residential as well as institutional, cultural and recreational. The latter activities directly support the "living" rather than the "making a living" functions of city residents.

The general policy for settlements is that they be located in areas that are free from natural and man-made hazards and that the communities thereof are accorded access to adequate services that enhance their overall quality of life. To ensure attainment of these policy objectives, proper regulation of residential locations as well as density levels shall be strictly enforced.

The following are the place-specific policies on urban settlements.

10.1.1. Residential

- Low-rise residential structures shall consist of single family and single- detached units with the usual community ancillary services on a neighborhood scale and relatively in exclusive subdivisions with compatible support facilities. It shall adopt the maximum density restrictions. Only low-rise residential structures are allowed in mature stable residential neighborhoods as identified in Chapter 6. This type is also allowed in other areas.

- Medium rise residential buildings shall consist of multi-family housing like duplexes, town houses / apartments, accessorias or row houses and other multiple family dwelling units on a limited scale of up to seven (7) storeys with the usual community ancillary services and support facilities. Evaluation of this type of structures shall be based on the carrying capacity of the road and utilities, provision for parking, load bearing capacity of the soil and other relevant factors. This type of residential structures shall be allowed in any suitable part of the city except in the mature stable neighborhoods identified in Chapter 6.

- High-rise residential structures characterized mainly by mixed-housing types and multi-level dwellings of more than seven (7) floors with the usual community ancillary services catering also to the needs of outlying areas, are projects increasingly pursued at commercial in scale. Evaluation of projects involving high-rise residential structures shall adopt the floor area ratio (FAR) based on the carrying capacity of the road and utilities, provision for parking, load bearing capacity of the soil and other relevant factors. This type of residential structures shall be promoted in the growth centers, but it may also be allowed in non-growth areas, except in the mature stable neighborhoods identified in Chapter 6.

- High density residential and compact development is encouraged in growth centers where proximity to work places and mass transit systems is given utmost significance to promote efficiency in energy and land use. This reduces travel time, facilitates movement of people and goods, minimizes energy consumption, promoting Climate Change Adaptation. This type of development also reduces pressure on green spaces.

- In-filling of pockets of vacant lands in fully-serviced areas of District I, District IV and District III, particularly those lots that lie within identified growth centers, shall be strongly encouraged to promote efficient utilization of urban land. The City government shall consider applying the idle land tax on unresponsive property owners concerned.

- increasing residential densities through compact and vertical development shall be al-

lowed outside of the growth centers provided that such densified sites are accessible to public transport and mass transit hubs, thereby minimizing energy consumption from burning fossil fuels, thus reducing greenhouse gas (GHG) emissions.

• To arrest the deterioration of the city's old residential districts the city government shall devise legal, fiscal and other forms of incentives to encourage property owners in identified blocks or neighborhoods to undertake community-wide urban redevelopment rather than leave the matter of urban renewal to individual initiative. Whenever deemed feasible, the City government may itself undertake urban renewal projects.

• Conversion of residential lots to commercial or office development shall be allowed in the growth centers only.

• At least half of the remaining vacant lands shall be allocated for socialized housing to absorb informal settlers who currently occupy lots that are not available, or simply cannot be used for socialized housing. (See Annex 6 QC Shelter Plan)

• Residential use shall have priority over other uses in the allocation of hazard-free areas.

• Residents in danger zones shall be relocated to hazard-free areas (See Annex 7: Housing/Resettlement Areas Map)

• Vulnerable settlements that cannot be relocated shall have community-based DRRM Plan.

• Multi-storey dwellings shall be located in areas determined to be safe by engineering geological studies.

• Residential structures shall comply with applicable laws on building construction such as but not limited to PD 1096, PD 1067, BP 220, PD 957, RA 7279, RA 4726, PD 1216, PD 1187.

• Green housing designs shall be promoted in the construction of dwelling units to lessen the impacts of climate change on the occupants. The health and comfort of residents shall be considered in designing dwelling units with less use of electricity and water.

10.1.2 Institutional Land Use Policies

Institutional land use, dominated by government offices and facilities, both local and national, is highly concentrated in the old government centers which now form part of the CBD-Knowledge Community District and the NGC-Batasan Growth Center. Concentrated in these two districts are 67 national government agencies, tertiary-level and specialized medical institutions, and large universities and colleges.

Other institutions with mainly local clientele and occupying smaller lots are scattered throughout the city positioned close to the communities they serve. The total area of institutional land has not changed. While the amount of institutional reserves held by the national government was reduced by the conversion of portions of the NGC into socialized housing sites, this was compensated by the creation of new sites for community level services like schools and health centers to meet the needs of a growing population.

Specific policies on Institutional land use are as follows:

• No increase in the area for national government institutions is foreseen in this Plan. Any requirements for future expansion of the national government offices shall be met by utilizing open areas within their existing sites through vertical development or by increasing building densities. Another option is to decentralize certain services to their regional offices.

• There is a need for additional institutional space for local-level services in the form of:

- Mini-civic centers in the growth areas where selected services of the city government will be

decentralized.

- New sites for public schools and health centers particularly in the highly populous barangays in District II.
- New sites for cemeteries and memorial parks.

• Each of the mini-civic centers to be established in each of the growth centers, except in the CBD-Knowledge Community District, shall have a district public library and a museum to serve all barangays encompassed within the growth center and its area of influence. Each barangay shall maintain a reading center.

• Places of amusement and indoor recreation such as night clubs, dance halls, bars, saloons, billiards and pool joints, bowling alleys, and the like shall be allowed in the growth centers provided that such establishments are located beyond a 50 meter radius of any school, hospital or church.

• In big scale development projects such as mixed-use complexes, there shall be allocated as part of the open space requirement an area dedicated for public facilities and services

• In the selection of sites for institutional use factors such as geographical centrality, accessibility, availability of transportation and communication facilities, drainage and sanitation, development and economic progress and potential sources of natural and human-caused hazards should be taken into consideration. Institutions shall be located in hazard-free areas.

• Infrastructure Improvement Plan and an operational DRRM Plan shall be implemented in existing hazard-prone institutional areas where relocation of structures is impractical at present

10.2 Policies on Production Areas

Production areas are allocated for commercial, industrial and office uses. These areas must be properly located to provide residents ease in availing of goods and services that they need. These are mainly the employment areas of majority of the city's labor force. Their locations greatly affect the volume and direction of daily traffic flow and can create some environmental issues.

10.2.1 Commercial

Commercial establishments vary in type of activities, scale of good and services offered and clientele served. These establishments usually locate in areas of highest accessibility, that is, along major transport routes, within the central business district (CBD), around traditional public markets, near or around transport hubs like bus terminals, train stations and similar areas, always oriented to their clientele. Their choice of location invariably makes a strong impact on the pattern of concentration of public and private investments in an interactive way. Initially, commercial establishments respond to public investments like roads, ports, terminals, etc. Over time they create diseconomies and dysfunctions like traffic congestion and environmental deterioration, which in turn require government response and intervention. The principal focus of government policy intervention is to preempt or prevent the diseconomies from occurring. Hence, the following policies:

- The absence of a traditional Central Business District (CBD) for Quezon City justifies the creation of one. Development of East and North Triangles and Veterans Memorial Area following an integrated and environmentally balanced and mixed used development model as required by Executive Order Nos. 620 and 620-A is a concrete step towards establishing the CBD. Since its clientele is expected to come from the entire metropolitan and metro-fringe areas the CBD will become the locale of the most intensive commercial activities in the future. To achieve the needed concentration of investments in this area therefore requires a corresponding policy to modulate similar scale of investments in other parts of the city.
- The mall-type sprawling commercial establishment is a highly inefficient utilization of valuable urban land. This type of commercial development should now be discouraged in Quezon City. Instead, the more compact multi-storey mixed use construction shall be promoted especially in the growth centers.

- Conversion of abandoned industrial properties into commercial development shall be allowed to avert further disuse of urban assets. Commercial activities however, generate higher volumes of traffic than industrial ones. In the evaluation of proposals to convert industrial lots to commercial development, traffic impact assessment shall be an added requirement for the grant of a zoning clearance.
- The strong traffic generation potential of commercial development should be a reason for discouraging the traditional ribbon-type or linear pattern of distribution of business firms. Instead, the nodal form is more efficient and profitable for the businesses themselves. To promote the concentrated nodal pattern of commercial development, the following policy interventions are proposed:
  - Revitalize the aging public markets as the nucleus of community-level commercial development so that the existing businesses around the markets will likewise invest in the revitalization of their own establishments.
  - Over a certain radius from existing and proposed train stations, bus terminals and similar traffic generators shall be reserved for commercial development.
  - Encourage and assist neighborhoods in established residential areas such as those in the South and West Triangles to create non-mall shopping precincts that cater to customers from the neighborhood and beyond. Assistance can take the form of pedestrianization of certain streets, provision of off-street parking, and observing adequate building setbacks to make room for wider and arcaded side walks
- No places of amusement shall be established, maintained or operated within the radius of 200 meters in case of video bars, beer gardens, night clubs, cabaret, pavilion and similar places, and 50 linear meters for dancing schools, bars, saloons, billiard pools, bowling alleys or other similar places except cockpits to be left at the discretion of the local government) from any public buildings, schools, hospitals and churches (RA 1224)
- Auto repair shops, vulcanizing shops, carwash, emission testing centers are required to have a minimum 100 sq. m. service area to avoid using sidewalks and road rights of way (ROW). (Adopted from MMDA Order signed by all mayors of Metro Manila)
- Abattoirs/Slaughterhouses shall be at least 200 m. away from residential areas**, schools**, churches and places of public assembly, 25 meters away from markets and other food establishments. (PD 856 -Sanitation Code)
- Gasoline/Auto LPG refilling stations and other industrial activities should secure DENR-ECC, DOE Cert. of Compliance and Standards Compliance Certificate (SCC) - DOE Circular Nos. 2003-11-010, 2006-02-0002
- Commercial land use shall be properly located not only in consideration of traffic generator potentials but also of pollution impacts.
- Commercial and business establishments which generate income and provide employment should be located in hazard-free areas
- Infrastructure Improvement Plan and Disaster Risk Reductio and Management Plan (DRRM) shall be implemented in existing commercial areas that are hazard-prone and where removal of commercial structures are impractical.

10.2.2 Industrial

Industrial activities are also a provider of employment, a contributor to traffic situation and a polluter of environment (depending on type of manufacturing process the industry entails). Their location must be carefully chosen in relation to residential areas, schools, and other sensitive activity areas.

Government should evaluate location of industries in terms of their impact on the environment, traffic, provision of services and utilities (water, power, telecommunication, service roads). The following policies shall also be considered:

- Industrial buildings shall adopt the requirements on the carrying capacity of the road and utilities, provision for parking, load bearing capacity of the soil and other relevant factors, including buffer restrictions.

- Industry dispersal policy outside Metro Manila (*Incentives are no longer provided to industrial investments in MM.)* Generally non-pollutive, non-hazardous businesses shall be allowed, but pollutive / hazardous processing manufacturing establishments shall be subject to evaluation and must secure ECC from DENR.
- Small scale cottage industries may be located in conjunction with commercial and residential areas.
- New industries shall be located in hazard-free areas
- Where industries are existing in hazard-prone areas, there shall be implemented Infrastructure Improvement Plan and operationalional DRRM Plan.

10.2.3 Office

Offices usually co-locate with commercial activities because they share a common clientele. However, it can be noted that there is now a sharing of office use with residential spaces. This trend that has been increasing is brought about by the wide spread use of new/ modern information-communication technology which is changing the character of what used to be the traditional exclusive residential areas. Small office uses in residential areas may be allowed provided they do not alter the outside appearance of the residential structure/premises and the dominant residential use is maintained.

10.3 Policies on Protected Areas

The protected areas consist of parks and easements and other functional open spaces and the heritage and culture properties of the city that have to be preserved and conserved for the benefit of the present and future generations. Parks and easements are best left open to safeguard their function of maintaining ecological balance and preserving the integrity of the environment and providing cheap recreation opportunities to the inhabitants, ensuring safe water supply, or keeping the integrity of vital utility installations. Heritage and cultural properties include places, structures, and icons of important historical and cultural values that instill in the citizenry a sense of pride and identity as a city.

10.3.1 Parks

National/Regional Parks

- Parks of national or regional significance should be strategically located and should be accessible not only to the city inhabitants but also to people from nearby cities and municipalities and other parts of the country. As such, they should be near or along public transport routes.
- Building footprints inside public parks should be kept to the minimum for maximum rainwater infiltration and aquifer recharge, hence, only uses, services and amenities supporting and compatible with park and recreational functions should be allowed.
- The policy of preservation should be observed in the development of these parks. No portion of the parks should be segregated for other uses.

City/Community Parks

- City/community parks are those that serve a cluster of barangays so they should be within reasonable walking and commuting distance to the residents of those barangays.
- Building footprints should be kept to the minimum for maximum rainwater infiltration and aquifer recharge, hence, only uses, services and amenities supporting and compatible with park and recreational functions should be allowed.
- The policy of preservation should be observed in the development of these parks. No portion of the parks should be segregated for other uses. Whenever possible, parks should be expanded commensurate to the increase in the population they serve.

Barangay/Neighborhood Parks

- Barangay or neighborhood parks cater the residents of a barangay or neighborhood. Hence, they should be within walking distance from places of residence without the need to cross busy streets especially for children, elderly and the disabled.
- Building footprints should be kept to the minimum for maximum rainwater infiltration and aquifer recharge, hence, only uses, services and amenities supporting and compatible with park and recreational functions should be allowed.
- The policy of preservation should be observed in the development of these parks. No portion of the parks should be segregated for other uses.

10.3.2 Forests

- Natural and manmade forests shall be preserved and protected.

10.3.3 Easements

Along Rivers and Creeks

- A minimum of 3-meter easement throughout the entire length of rivers and creeks should be provided as mandated by the Water Code of the Philippines and other applicable laws.
- Special policies requiring easements other than the minimum 3-meter requirement of the Water Code being imposed in Metro Manila shall be observed and enforced.
- Missing easements such as those occupied by structures and informal settlers shall be recovered and developed as parks.

Road Right-of-Ways

- Road rights-of-way shall be provided to connect different functional areas like places of living, work and play and to facilitate the flow of people, goods, services and communication.
- Road rights-of- way shall be provided and developed in accordance with the requirements of the laws on subdivision and open spaces.
- They shall always be kept free of any obstruction and only uses such as vital utility lines and facilities ensuring road safety, visual clarity and good streetscape shall be allowed.

Utility Easements

- La Mesa Dam and Reservoir – this vital land reserve shall be protected and preserved to safeguard its function as a major water supply installation. Its natural state shall be protected since it plays a critical role in maintaining ecological balance in the city, particularly providing habitat to a host of flora and fauna that are either vulnerable, endangered, or critically-endangered, cleansing the city's ambient air and in recharging the aquifer.
- A buffer strip shall be provided along Litex Road adjoining the La Mesa Dam perimeter fence. Where it is necessary to acquire land for this purpose, the land shall be included in the Land banking Program and subject to acquisition.
- Power Transmission Lines and Aqueducts – these corridor easements shall be preserved and protected and shall not be utilized for any purpose except for their intended uses and those installations and facilities specifically allowed by law. They shall not be occupied by any structure that will compromise or endanger the existing utility installations.

10.3.3 Heritage and Culture Properties

Architectural Gems

- Structures dating at least 50 years old and works of national artists shall be preserved, conserved and promoted as provided for under RA No. 10066 otherwise known as the National Heritage Act of 2009.
- Structures regardless of age which embody outstanding architectural and engineering achievements, a significant technological innovation, an important symbolic value, or are

unique or rare in their design or function shall be preserved for their scientific, historical, economic, cultural of public interest value.

Historical Shrines

- Sites and structures declared by the National Historical Institute as historical shrines shall be protected, preserved and promoted as provided for under RA No. 10066 otherwise known as the National Heritage Act of 2009.
- Other sites associated with individuals or events that made an important contribution to the historical development of the city as determined by a counterpart local historical committee shall be preserved as historical shrines through enactment of a local ordinance.

10.4 Policies on Infrastructure Areas

Infrastructure areas consist of areas devoted to circulation networks, utilities, environmental infrastructures and public safety and protection.

9.4.1 Circulation Network

Arterials/National/Metropolitan

- Any proposed changes on arterial roads traversing any portion of Quezon City including but not limited to widening, extension, or new alignment shall be done by the concerned national government agency in consultation and coordination with the local government and its affected constituency pursuant to the provisions of Sec. 26 and Sec. 27 of the Local Government Code (RA 7160).
- The needed right-of-way of identified proposed primary and secondary roads shall be purchased at approved appraised value at the time the ordinance is passed. However, actual payment shall be made according to a schedule which considers the availability of funds and priority of implementation provided that affected property owners shall be notified on the matter immediately upon approval of the schedule.
- Rights-of-way for widening existing primary and secondary roads to a specified width in the ordinance shall be acquired through imposition of setback on all future constructions in the affected properties. Necessary purchase shall also be implemented (valuation and schedule of actual payment) on the same procedures described above.

City Streets

- Development and maintenance of road lots, whether donated to the government or not, that are undeveloped, encroached upon, or illegally occupied shall be assumed by the city government in order to provide alternate routes for improved inter-neighborhood circulation and improved area- wide traffic distribution and/or open access to land-locked properties.
- Notification to utility firms, specially the concerned water and sewerage concessionaires, on funded city road improvement projects for them to proceed with necessary pipe laying works, if any. Such works requiring excavation of road pavement shall not be permitted after the roadway has been concreted. To prevent untimely and unnecessary excavation of already concreted pavements, provision of cross utility pipes for use of future connections to abutting properties shall be included in the City's program of works for road concreting projects and properly marked on site.
- Pedestrian safety shall be the primary consideration in the design and construction of city streets and installation of street furniture.

Transport Terminals/Depot

- Establishment of the Balintawak area terminal for north bound provincial buses, integrated with a transfer station of City buses, jeepneys, vans and taxis also connected to MRT stations should be given high priority'
- Bus terminals shall not be located immediately along main roads to minimize traffic obstruction.

- No terminals shall be allowed within the road right-of-way, only loading/unloading and at controlled number of units.
- Measures to control nuisances and pollution (noise, fumes, liquid, effluents, fire hazard) shall be strictly implemented.

10.4.2 Environmental Infrastructure

Drainage and Sewerage

- All natural waterways shall be identified and rights of way established and imposed on all properties traversed by the waterway especially in those cases where the existing waterway forms part of, or is not specifically separated in the title of the subject property.
- Construction of bank protection structures (rip-rap, retaining wall, etc.) shall be mandatory in all property development projects for safety of affected lot buyers.
- The required three-meter easement along waterways shall be reckoned from the bank protection structure.

Solid Waste Management System

- The location/site of solid waste management facilities shall be in accordance with the provisions of RA 9003, otherwise known as the Ecological Solid Waste Management Act of 2000.
- Specifically for sanitary landfill, the site must –
  - Be accessible from major roadways or thoroughfares;
  - Have an adequate quantity of earth cover material that is easily handled and compacted;
  - Be chosen with regard for the sensitivities of the community's residents;
  - `Be located in an area where the landfill's operation will not detrimentally affect environmentally sensitive resources such as aquifers, groundwater reservoirs or watershed areas; and
  - Be large enough to accommodate the community's wastes for a period of five (5) years during which people must internalize the value of environmentally sound and sustainable solid waste disposal internalize the value of environmentally sound and sustainable solid waste disposal;
- Solid waste facilities like materials recovery facility, reduction and composting plants, storage and collection and transport facilities should be located where they are reasonably accessible but do not pose danger to the environment and to the health, safety and security of the community. The location and land area should allow receiving, sorting, processing, storage and transport in an environmentally-sound manner.
- Solid waste management facilities shall be located in hazard-free areas.

10.4.3 Public Safety and Protection

Disaster Response Operation Center

- A disaster response operation center shall be established in accordance with RA No. 10121 – An Act Strengthening the Philippine Risk Reduction and Management System.
- The location of the center shall be in highly accessible site where response can be dispatched immediately and without delay and which is hazard-free.

Fire Stations

- Establishment of fire stations shall be in accordance with the provisions of RA 6975 Chapter V, Sec. 55-56 "Establishment of Fire Station" .
- Fire stations shall be located in hazard-free areas and where they can dispatch response immediately and without delay.

Jail and Detention Centers

- Jails and detention centers shall established subject to the provisions of RA 6975 Chapter V Sec. 62-63 as amended by RA 9263 "Establishment of District City and Municipal Jail".
- They shall be located in hazard-free areas within safe distance from highly populated areas and where measures ensuring safety of the community can be effectively enforced.

11 IMPLEMENTING THE COMPREHENSIVE LAND USE PLAN

The Comprehensive Land Use Plan is implemented by means of both regulatory and developmental tools. The zoning ordinance is the principal regulatory tool but it can be supplemented by other specific ordinances to be enacted subsequently by the Sangguniang Panlungsod, as well as executive and administrative orders issued by the Local Chief Executive. The developmental tool is mainly the Local Development Investment Program which embodies the priority projects that will be funded out of the development fund component of the LGU's annual budget. Another tool which carries both regulatory and developmental elements is co-management arrangement between particular agencies of the national government and the local government for the joint management of certain portions of the local government territory over which the latter does not have full authority.

This chapter explores the nuances of these instruments so that they can be more effectively applied to the successful implementation of this CLUP.

11.1 The Zoning Ordinance

The existing Zoning Ordinance of Quezon City shall be revised in consonance with this Comprehensive Land Use Plan. Selected features of the revised Zoning Ordinance include the following:

10.1.1 Settlement Areas

Density limits in residential communities shall primarily depend on the capacity of roads servicing the area. Where lot sizes are small and roads are narrow as can be observed in socialized and low-cost housing projects, density control by restricting building height and imposing front setback shall be implemented. These measures are intended to afford convenient access and mobility in the community as well as minimize risks of disastrous fire.

Mature communities where residents are not amenable to any drastic change on the character of their place shall maintain their low density, low rise nature.

Community and neighborhood scale commercial activities such as home occupation, cottage industries, convenience stores and the like may be allowed only when they do not alter the outside appearance of the residential area and major residential use is maintained.

Residential use is divided into five (5) zone classification described as follows:

- Low Density Residential Zone (R1) – a district with a density of up to 20 dwelling units per hectare and maximum building height shall be 3-storey or 10.00 meter whichever is lesser
- Low Density Residential Zone (R-1-A) – a district with a density of 21-28 dwelling units per hectare and a maximum building height shall be seven (7) storeys.
- Medium Density Residential Zone (R-2) – a district having a density of 29-60 dwelling units per hectare and a maximum height of seven (7) storeys.
- Medium Density Residential Zone A (R-2-A) – a district having a density of 61-100 dwelling units per hectare and a maximum height of seven (7) storeys.
- High Density Residential Zone (R-3) – a district having a density of 101 and above dwelling units per hectare and controlled by a floor area ratio of 6.

11.1.2 Production Areas

The regional commercial function of the growth centers shall be enhanced. Generally, high rise structures shall be allowed in C-3 zones of the

area while in lower commercial zone classifications (C-1 and C-2) building heights are controlled by floor area requirements which essentially consider the traffic capacity of the road.

- High rise structures shall be allowed in C-3 zones.
- Structures in lower classifications of commercial zones (C-1 and C-2) shall be subject to floor area restrictions to regulate traffic to be generated.
- Parking requirements shall be strictly imposed in traffic generating activities.
- High rise structures should provide beacon lights on the topmost part of the building.

10.1.3 Protected Areas

- Buildings in parks shall be allowed only to those providing necessary amenities and basic facilities for the park users with limited height and land space utilized.
- No buildings shall be allowed with rights-of-way of aqueducts and power transmission lines except for maintenance facilities necessary for their upkeep and security.
- No structures shall be allowed within the 5.00 meter buffer of the West Valley Fault Zone, for this purpose, all proposed structures near the zone must first secure a clearance from Philvocs.
- The three (3) meter mandatory easement along waterways shall be kept open and unobstructed by any kind of structure.

11.1.4 Infrastructure Areas

Rights-of-way identified for proposed roads, widening and extension shall be secured by way of disallowing any future building construction thereon or through imposition of setback on proposed buildings abutting said rights-of-way.

Existing natural waterways including the required 3.00 meter easement thereof specifically segregated from the title of the property where they are located shall be non-buildable and preserved for drainage purposes.

11.2 Other Regulatory Measures

10.2.1 Land taxes as regulatory tools

In addition to zoning, the city government may use other authority-levers to deal with property owners such as the exercise of its taxing power and the power of eminent domain.

10.2.1.1 Imposition of graduated or selective idle land tax. (Sec. 236-239, RA 7160). The idle land tax is an additional imposition of up to five percent (5%) on the assessed value of land considered as idle.

For urban lands to be idle, these should have an area of not less than 1,000 sq.m., one-half of which remains unutilized or unimproved. Individual owners of subdivision lots regardless of the size of lot are liable to this imposition. Likewise, subdivision owners or operators with individual lots that remain untransferred to lot buyers are subject to this special tax.

The idle land is a regulatory device to influence the pattern and direction of development in accordance with the desired urban form. For example, it could be used to intensify development in the growth centers in accordance with the spatial strategy in the Comprehensive Land Use Plan through in-filling of existing vacant lots and by increasing densities, then the idle lands tax should be imposed on idle and under-utilized lots in the growth centers only. Otherwise, applying the tax generally over the whole territory will not help achieve the desired spatial outcome.

A possible variant of the idle lands tax which is a tool to intensify development in certain areas designated in the land use plan is a tax on under-utilized property.

Land may not exactly be idle as legally defined. But its current use or use intensity may

be of a lower category than what the market justifies in accordance with the concept of "highest and best use". For example, the owner of an inner-city lot continues to hold on to a single-storey residential house when the rest of the block or neighborhood have already converted to multi-storey residential or commercial development. A useful indicator of the intensity of development of an urban property is the ratio of the value of improvements to the value of the land. The lower this ratio the more likely is the property being used in a sub-optimal manner. For purposes of imposing the special levy, a cut-off ratio should be determined so that all properties with ratios below the cut-off one will be subject to the special levy. This regulatory device will achieve the desired effect if it is applied in conjunction with zoning plan that indicates different levels of density for various geographical sections of the city.

11.2.1.2 Special Benefit Levy. This is an assessment on lands that are specially benefited by public works projects, whether these be new construction or improvements on existing ones. This tax allows local governments to recover as much as sixty percent (60%) of the cost of the project from contributions by the owners of the lands that stand to benefit tremendously as a result of the project in the form of increased land values.

With the threat of this levy, landowners may opt to donate portion of their property for the proposed public works project in anticipation of greater benefits that the project will induce or accelerate in terms not only of increased land values but more particularly in terms of general improvement in business climate and investment opportunities.

11.2.2 Eminent Domain Proceedings

Another inherent power of the State to deal with private property owners is the power to take back private property for public purposes. Local governments must be able to use their eminent domain powers to acquire more private property for land banking purposes. Land banking is the advanced acquisition and consolidation of lands identified in the comprehensive land use plan as areas for future urban expansion to be able to curb speculative pricing of development land and control the pace and timing of the development in accordance with the plan.

11.3 Investment Programming

11.3.1 Public Investment

Whereas zoning ensures that projects are located in the right place the projects subject to zoning regulation are often identified or initiated by the private sector and are not always of the right type in the sense of being socially acceptable. Hence, there is a need to supplement zoning with another authority-lever: public investment.

Investment in public infrastructure and facilities is a powerful tool to shape local development in accordance with the chosen urban form in the CLUP. When public facilities such as roads and bridges, schools, public buildings, water supply systems, or waste disposal facilities have been established these have the potential to shape the pattern of land use for decades. Public facilities can also shape development in that they strongly influence private investment in the desired direction. Public investment therefore is a double-edged authority-lever. It improves the quality of public services and at the same time it influences private sector investment. Some of the major infrastructure projects proposed in this CLUP are the construction of convention center, museum, pedestrian and bikers' lane, pedestrian underpass, modern medical center, medical schools, abattoir, establishment of grand transport hub, etc.

Many of the physical development projects may not be completed during the first term of the Bautista Administration. But these could be started by conducting feasibility studies or master plan preparation. For example, master planning will be needed for the proposed special development areas like Banaue, Tomas Morato, Quezon Institute, and Payatas. Also, a feasibility study and thence, master plan will be needed for the proposed bus rapid

transit or a street car (tranvia) system for the Knowledge Community District to interlink with the CBD.

11.3.2 Private Investments

Yet another authority-lever available to the LGU is the mandate to put in place measures to attract private investments. The rationale for such intervention measures derives from two realities. First, the magnitude of investible resources in the possession of the private sector is much greater than of the public sector especially at the local level. Significant local development can be achieved better with the private sector investing in the area in such amounts as would constitute a multiple (rather than a mere fraction) of the public sector investment.

Secondly, private investments when left unguided may lead to unsatisfactory social outcomes. Private investors are not known to give prominent consideration for the general welfare as a factor in their decision-making. State intervention in private investment decisions is therefore necessary to promote distributive justice, social equity, and the general welfare (Art. XII, Sec. 6, Constitution).

The authority to guide private investments is given to the Local Development Council (Sec. 109,a,4, RA 7160). Such guidance could take the form of incentives to promote the inflow and direction of private investment capital. Such incentives in turn consist of tax breaks, selective subsidies, and reducing transaction costs like the setting up of one-stop shops and eliminating bureaucratic red tape and graft and corruption. With public and private investments complementing each other the benefits that will accrue to the citizens will be multiplied many times over.

11.4 Co-Management Arrangements

In order for the city government to extend its regulatory and developmental authority over its entire territorial jurisdiction, co-management arrangements should be forged between the city and the concerned national agencies or instrumentalities. Possible areas that may be put under co-management are the UP Diliman campus, the La Mesa Dam and watershed, the Ninoy Aquino Parks and Wildlife Center, and the military camps.

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