



ECONOMIC DEVELOPMENT STUDY FOR THE **CENTRAL DISTRICT OF BAYAMON**

JUNE of 2016

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PREFACE

The Municipality of Bayamon contracted Estudios Tecnicos, Inc. to carry out an economic development study for the Central District of Bayamon. The ultimate goal of the study is to define the public interventions that the Municipality of Bayamon should undertake in order to facilitate and enhance development options for the Central District of Bayamon (CDB), while recognizing limited resources and significant obligations towards its citizens.

The study is directed towards guiding the initiatives that the Municipality of Bayamon could perform in order to promote policies of economic development in the CDB, founded in innovation and entrepreneurial development. As part of this objective, the study identifies the relationship between the CDB, its periphery, and the wider region of Puerto Rico that it is a part of. The study provides strategies to promote private investment, and the integration and expansion of industrial clusters of existing economic activity.

The Municipality of Bayamon has certain public policy instruments, such as the "Plan for the Revitalization of the Central District of Bayamon". Nevertheless, the recommendations of this report complement those instruments with concrete interventions, based on local production factors and international tendencies in local and regional economic development, with a focus on innovation.¹

This study is organized into four sections, as follows:

The **First Section** provides a review of the socioeconomic background of Bayamon and its Central District. Included is a comparison with the commercial region and with municipalities in the region defined as the Metropolis.

The **Second Section** analyzes the assets in Bayamon, specifically those of the Central District, as a foundation upon which to strengthen its policy of economic development in the area of innovation, creative businesses, and technology. This constitutes an analysis of the basic assets that are required to carry out a strategy of economic development based on the concept of "innovation districts", a model of urban development that is emerging in the United States.

Katz and Warner define the "Innovation District" as "geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators. They are also physically compact, transit-accessible, and technically-wired and offer mixed-use housing, office, and retail."¹ The potential for these districts to promote innovative, inclusive, and sustainable development requires that the jurisdictions understand the factors that promote their development. At the same time, they should take into account that current status of these factors within the sector, so as to effectively apply this development strategy. According to Katz and Warner, this requires the examination of the strengths of three asset categories: 1) the economic assets; 2) the physical assets; and 3) assets associated with networks of collaboration.

¹ B. Katz & J. Wagner, *The Rise of Innovation Districts: A New Geography of Innovation in America*. Brookings Institution, 2014

The **Third Section** provides an analysis of the results of the public participation processes that were implemented. As part of the study, community meetings were held, as well as interviews to key informants in the clusters of health and education. The purpose of these interviews was to understand the linkages of the principal clusters with other economic actors in Bayamon, and to define the needs of the residential and business community in the CDB, with the purpose of identifying opportunities for economic and entrepreneurial development. Afterwards, a SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) was conducted in order to better understand the relationship that the Municipality has with the market.

The **Fourth Section** includes recommendations and the expected action plan.

Appendixes are also included with the results obtained during a literature review of successful incubation models in other parts of the world, as well as information on the concept of "learning regions", and on new paradigms about the growing convergence of ideas, disciplines, and changes in the market as well as means of productions. This review sheds light on emerging bodies of thought that supports the notion that, in multiple contexts, the local level activities are more relevant than the national or super-national.

SOCIOECONOMIC BACKGROUND OF BAYAMON AND THE CENTRAL DISTRICT

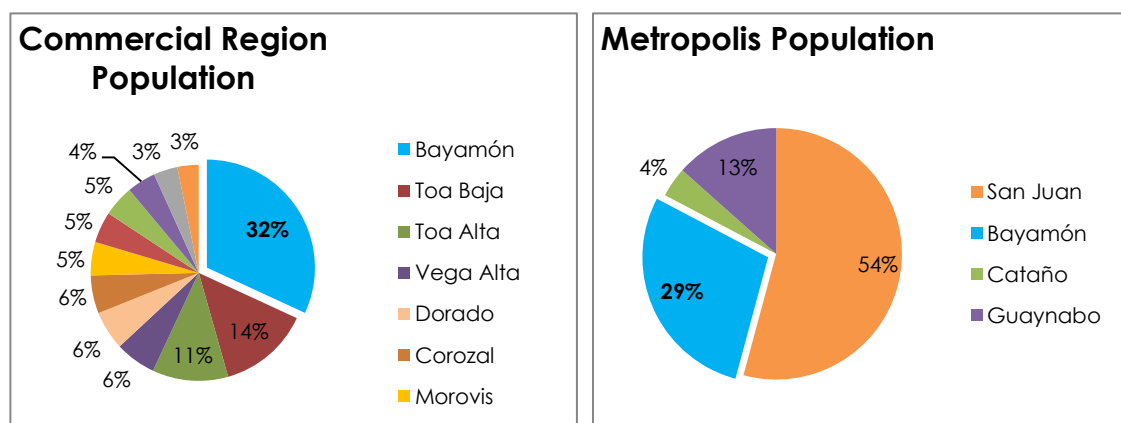
The following socioeconomic data are presented in the context of the Metropolis and the Commercial Region, of which the Municipality is a part. The Metropolis includes the municipalities of Bayamon, Cataño, Guaynabo and San Juan. The Commercial Region is defined by the U.S. Census Bureau, as part of the Economic Census.

The Economic Census is carried out by the U.S. Census Bureau every 5 years and collects data on establishments and industries dedicated to wholesale trade, retail, and service industries, as well as construction and manufacturing. The Economic Census also collects data on agriculture, forestry, fishing, and hunting; nevertheless, schools and universities and labor, as well as political or religious organizations do not form part of the data collected.

For the purpose of the following analysis, the Commercial Region of Bayamon is defined according to the distribution used by the Economic Census of 2007, which defines the region as a collection of the municipalities of Bayamon, Barranquitas, Cataño, Comerío, Corozal, Dorado, Morovis, Naranjito, Orocovis, Toa Alta, Toa Baja and Vega Alta. The region as defined by the Economic Census of 2007 is more representative of the commercial activity of Bayamon. Nevertheless, for purposes of the analysis, data from the 2012 Economic Census was used. This strategy permits the delineation of a Commercial Region that better reflects the commercial reality of Bayamon, while also allowing a presentation of the most recent and certain information.

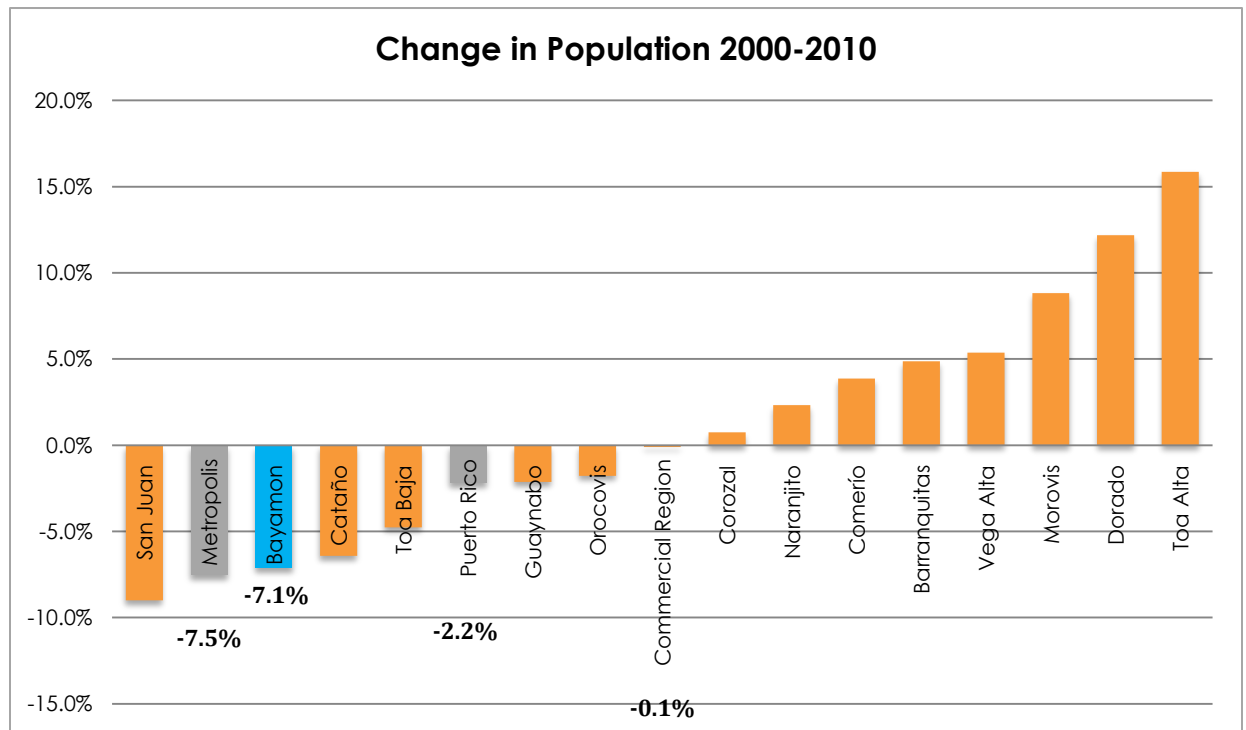
A. POPULATION

Bayamon is one of the principal municipalities of Puerto Rico. According to the 2010 Census, it is the second most populated municipality on the island, with a population of 208,116 and 76,834 households. The population of Bayamon represents 29% of the population of the metropolis, which in turn represents 20% of the population of Puerto Rico. It also represents 32% of the population of the Commercial Region.



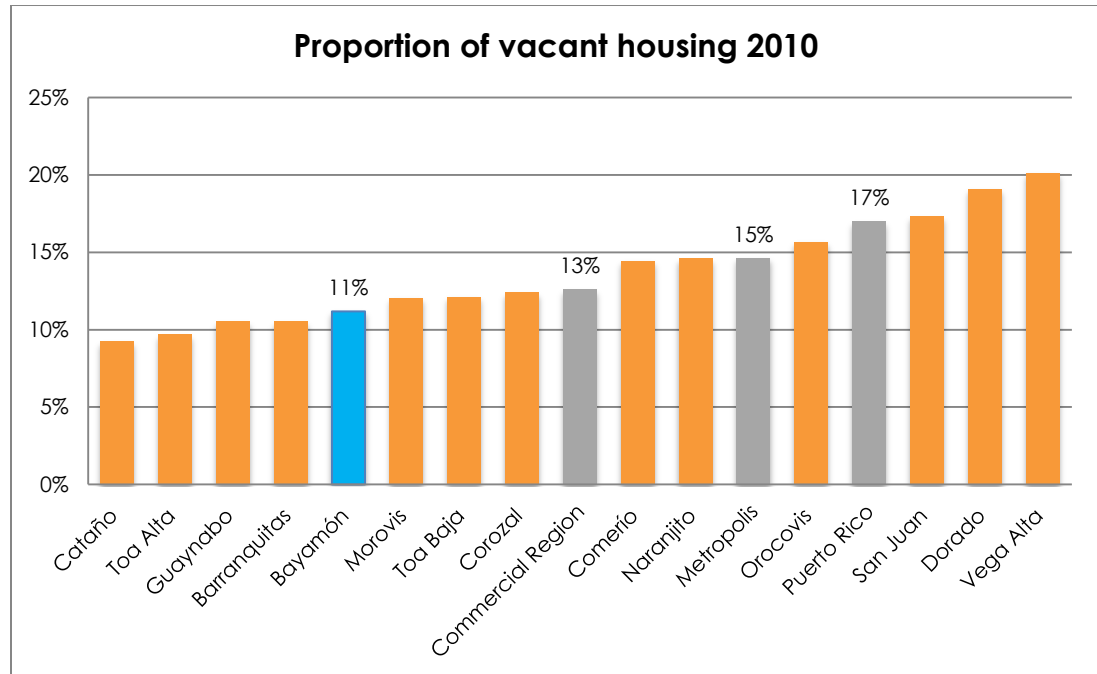
Source: U.S. Census Bureau 2010

Between 2000 and 2010, there has been a general decline in population in Puerto Rico. The Municipality of Bayamon (-7.1%) presents a larger population decrease than the Commercial Region (-0.1%) and Puerto Rico (-2.2%). It is slightly inferior to the decline reported by the Metropolis (-7.5%).



Source: U.S. Census Bureau 2000, 2010

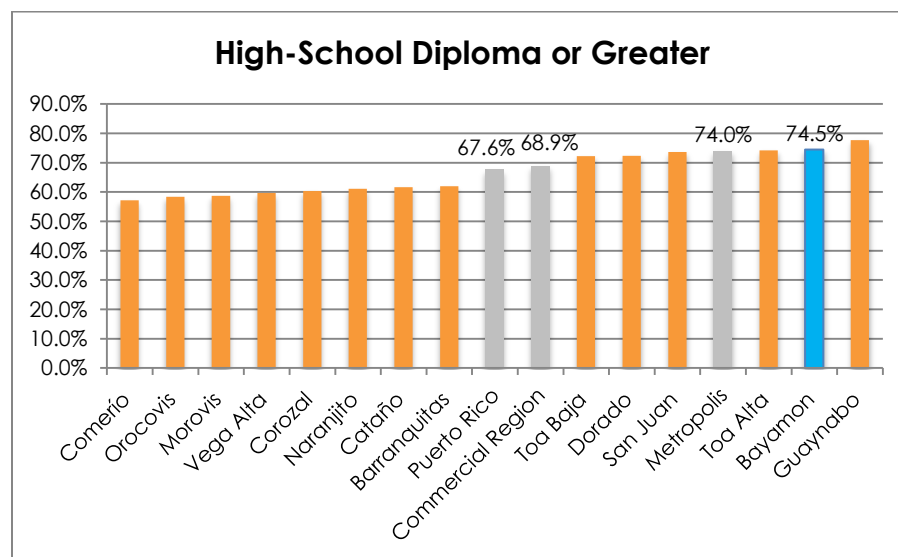
Nonetheless, the number of households increased by 3,141 during the 2010 decade. The simultaneous drop in population and rise in occupied households reflects that the average household size dropped. In fact, the census reflects that the number of persons per household reduced from 2.97 in 2000 to 2.64 in 2010. This tendency is related to factors such as decreases in the birth rate, migration, and the ageing of the population. The proportion of vacant households is less in Bayamon (11%) than in the Commercial region (13%), the Metropolis (15%) and Puerto Rico (17%).



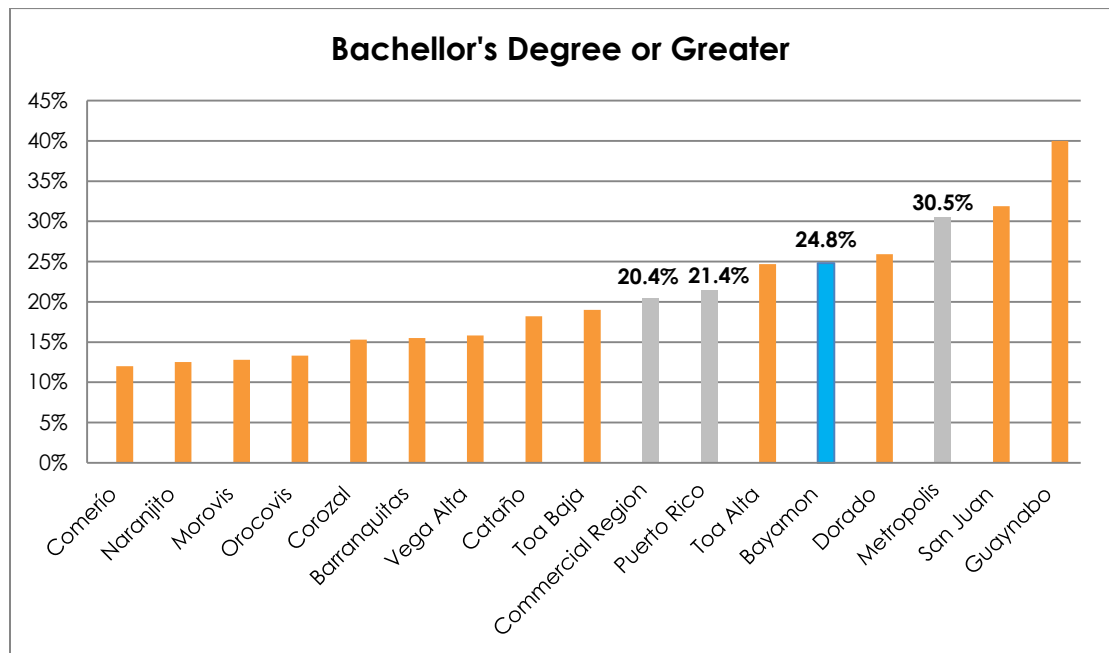
Source U.S. Census Bureau 2010

B. EDUCATION

Education is a fundamental element of any strategy based in innovation. The education level of the population in Bayamon is greater than the average in Puerto Rico. The population has on average 12.2 years of education, compared with 11.4 in the Island. 18.4% of the students are enrolled in private schools, compared to 10.4% in Puerto Rico. The percentage of the population that has at least a high school diploma is greater in Bayamon (74.5%) than in Puerto Rico (67.6%), the Commercial Region (68.9%), and the Metropolis (74%). Furthermore, the percent of the population of Bayamon that has at least a Bachelor's Degree (24.8%) is greater than in Puerto Rico (21.4%) and the Commercial Region (20.4%).



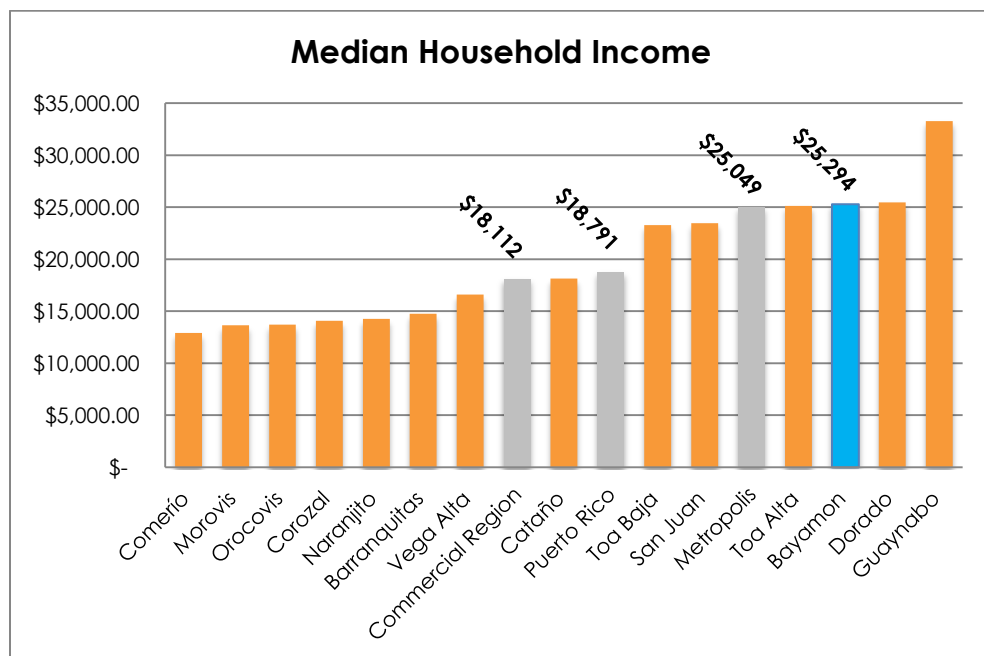
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Source: U.S. Census Bureau 2010

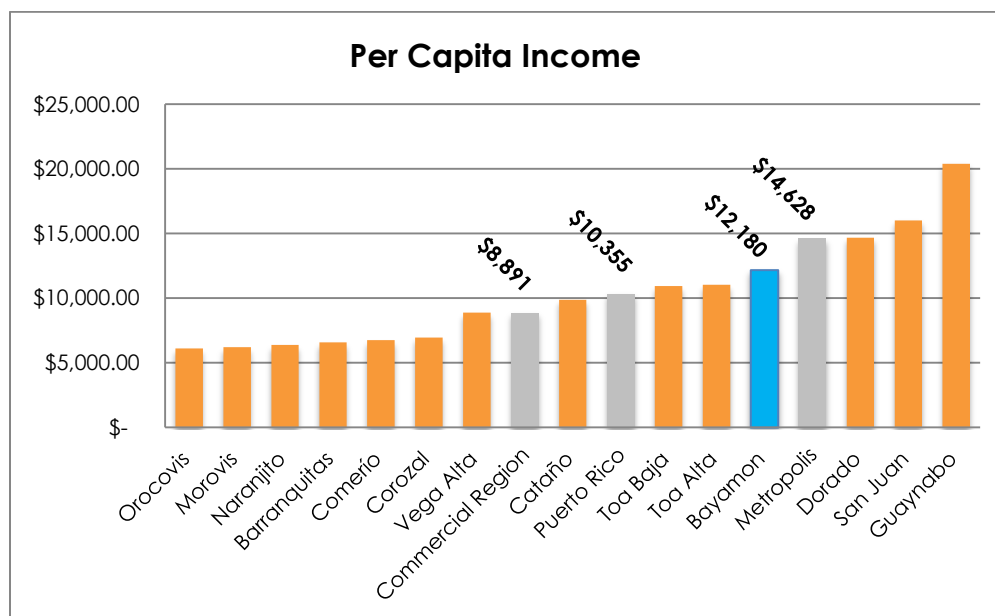
C. INCOME

In 2010, the median household income in Bayamon was \$25,294, which is greater than the median household income in Puerto Rico (\$18,791), the Commercial Region (\$18,112), and the Metropolis (\$25,049). Similarly, the proportion of families living below the poverty line in Bayamon (33.4%) is less than the proportion registered in Puerto Rico (44.7%).



Source: U.S. Census Bureau 2010

A similar trend is observed regarding per capita income: in Bayamon, per capita income (\$12,180) is superior to that registered in Puerto Rico (\$10,335) and the Commercial Region (\$8,891), while it is inferior to that of the Metropolis (\$14,628).

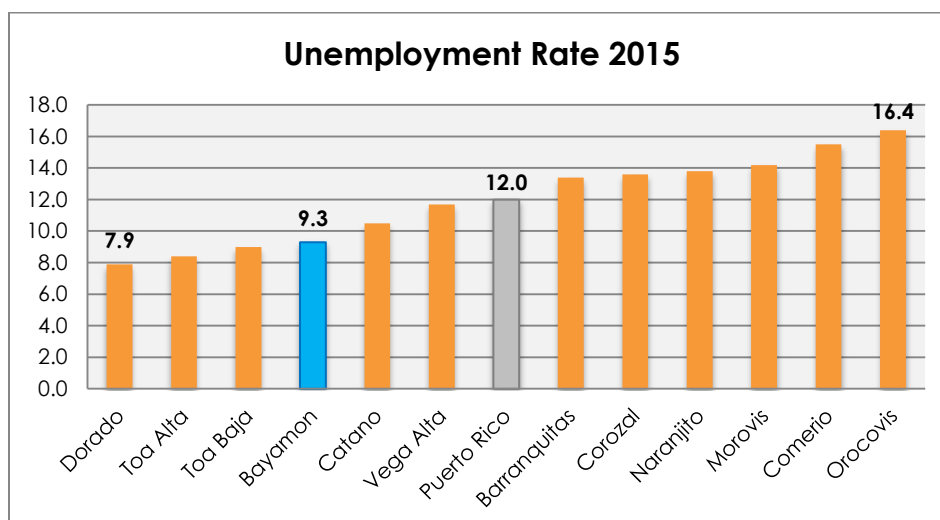


Source: U.S. Census Bureau 2010

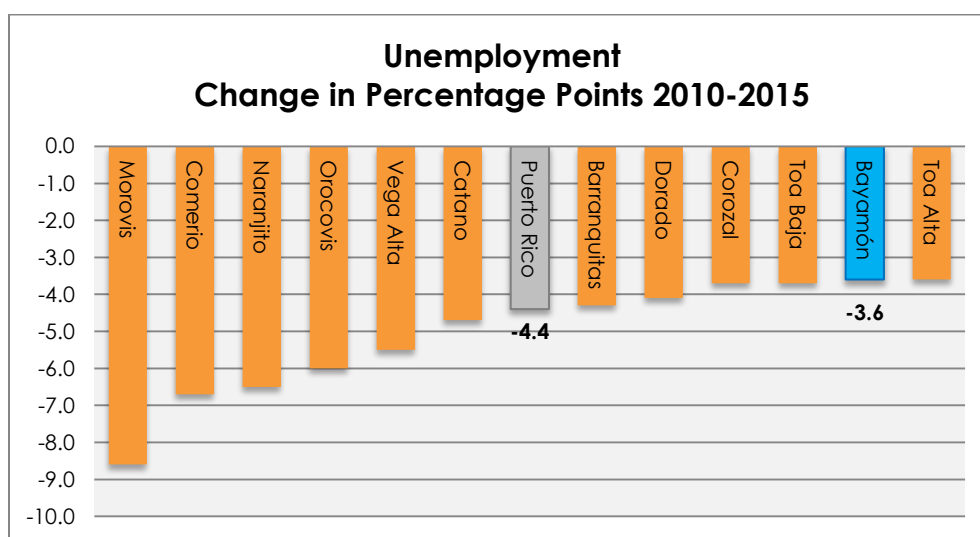
D. EMPLOYMENT

According to the statistics on salaried employment in 2014, Bayamon is one of the municipalities with the most economic strength in Puerto Rico. Salaried employment in the municipality reached 49,503 people, locating the municipality in second place behind San Juan. Of these, according to the Population Census (data on labor mobility in 2010), 55.2% of jobs are held by residents of other municipalities. At the same time, 58.9% of the residents of Bayamon work outside of the municipality.

In terms of unemployment, according to the data of the U.S. Bureau of Labor Statistics for 2015, Bayamon had an unemployment rate of 9.3%, which is less than that of Puerto Rico by almost three percentage points. Between the years 2010 and 2015, the rate of unemployment in Bayamon dropped by 3.6 percentage points.



Source: Local Area Unemployment Statistics (LAUS), Bureau of Labor Statistics.



Source: Local Area Unemployment Statistics (LAUS), Bureau of Labor Statistics.

The most important economic sector in the municipality in terms of the generation of salaried employment is **retail**, which employs 10,988 people. The other most important sectors are **health and social services** (7,263), **public administration** (5,689), **food and hospitality services** (4,671), **administrative and waste services** (3,941), and **wholesale** (3,916). **Together, these represent over 70% of the salaried employment** of the municipality.

With regards to the sectors that have reflected employment growth – according to the data of 2014 and 2010 – these include administrative and waste services, health and social services, professional and technical services, among others. The areas where employment has dropped occur principally in public administration and manufacturing, which is a reflection of the fiscal situation in Puerto Rico and the challenges that these two sectors confront. The sectors that grew brought 2,309 new jobs. Conversely, the sectors that contracted lost a total of 2,255 jobs. The Business Census reflects the commercial characteristics for industries in the municipality. The

Census reported a total of 2,692 businesses and reported sales of \$4.5 billion and employed over 36,214 people.

Salaried employment by industry in Bayamon

	2014	2010	% of total 2014	Growth
Retail sales	10,988	11,377	22.2%	-3.4%
Health and social services	7,263	6,687	14.7%	8.6%
Public administration	5,689	6,635	11.5%	-14.3%
Food and hospitality services	4,671	4,813	9.4%	-3.0%
Administrative and waste services	3,941	3,310	8.0%	19.1%
Wholesale trade	3,916	3,831	7.9%	2.2%
Educational services	3,780	3,300	7.6%	14.5%
Manufacturing	2,369	2,803	4.8%	-15.5%
Professional and technical services	1,407	913	2.8%	54.1%
Insurance and Finance	1,089	1,046	2.2%	4.1%
Other industries	4,390	4,734	8.9%	-7.3%
Total	49,503	49,499		0.008%

Source: Bureau of Labor Statistics.

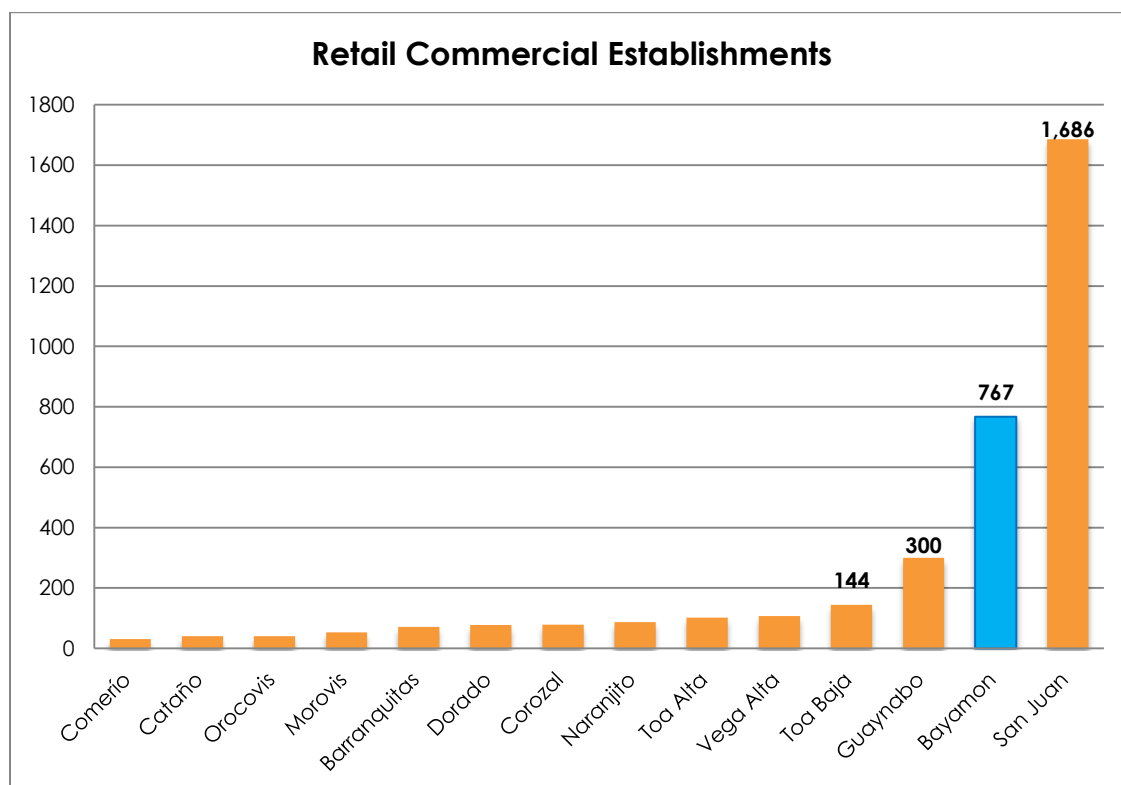
Data by industry in Bayamon 2012

NAICS	Establishment number	Income (\$1,000)	Paid employees
44-45 Retail sales	767	\$2199,925	11,640
42 Wholesale trade	174	\$830,060	2,897
62 Health and social services	592	\$552,797	6,517
52 Insurance and finance	102	\$232,508	1,533
72 Food and hospitality services	244	\$184,684	4,370
56 Administrative and waste services	128	\$121,640	3,499
81 Other services (except public administration)	185	\$97,704	1,440
54 Profesional, scientific, and technical services	193	\$94,604	945
48-49 Transporation and storage	94	\$79,105	971
53 Real estat, rent and leasing	86	\$57,523	471
51 Information	51	\$41,760	1,053
61 Educational services	41	\$32,941	722
21 Mining, quarries, and petroleum and gas extractic	4	\$5,463	46
71 Art, recreation, and entertainment	17	\$3,116	110
55 Business administration	14		
Total	2,692	\$4533,830	36,214

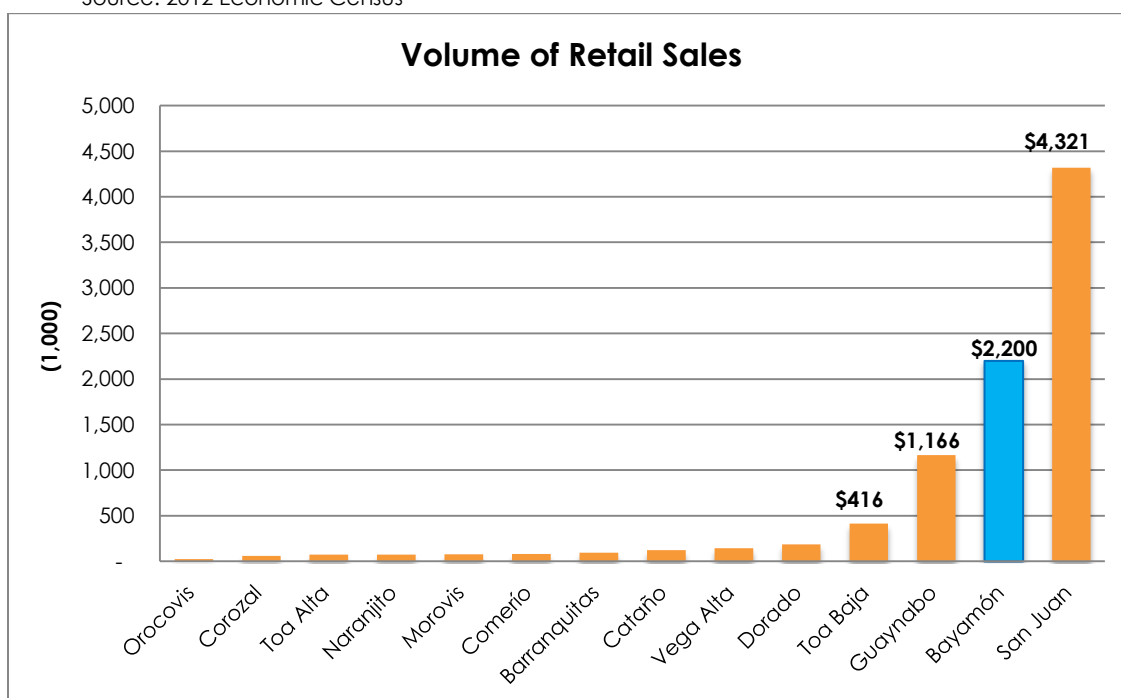
Source: Economic Census 2012.

In terms of the retail sector, Bayamón has 767 commercial establishments. This number locates Bayamon in first place in terms of the commercial Region, and in second place in terms of the Metropolis, with 48% and 27% of the total commercial establishments in the area, respectively. According to the 2012 Economic Census, the volume of retail sales in Bayamon was \$4,320,633,000; this locates it in first place in terms of the commercial Region, and in second

place in terms of the Metropolis, with 62% and 28% of the total volume of retail sales in the area, respectively.



Source: 2012 Economic Census



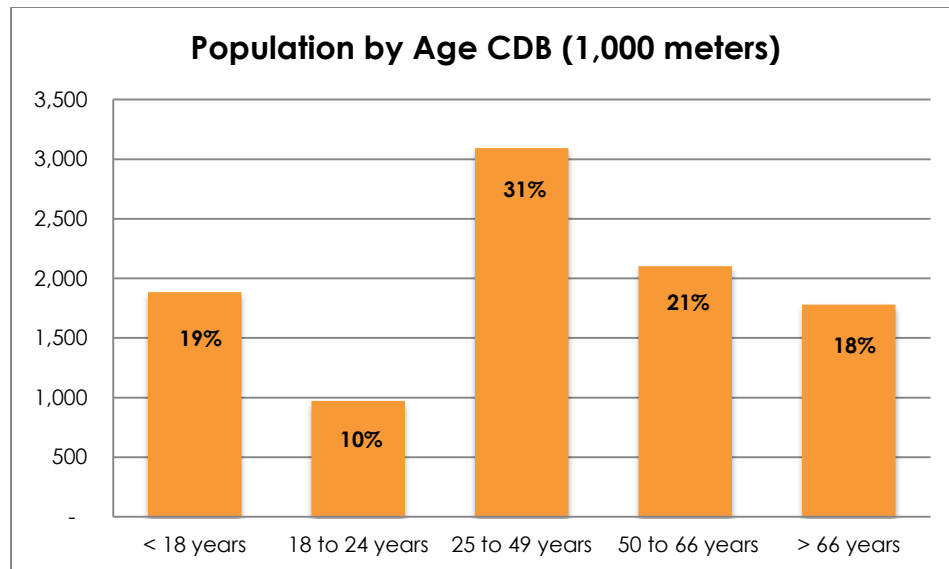
Source: 2012 Economic Census

At the same time, the importance of the Bayamon economy is reflected in its tax base and fiscal situation. Bayamón generated \$120 million in fiscal income in 2014, of which 65% came from its own sources. For this period, Bayamón was located in third place in Puerto Rico in terms of income, preceded only by San Juan and Guaynabo.



E. CENTRAL DISTRICT OF BAYAMON (CDB)

The Central District of Bayamon (CDB) is the principal center of economic activity of the municipality. The total population within the limits of the CDB is 5,065 people. A total of 2,947 people live in a 500-meter radius of the urban metro stations that are located within the CDB limits. If the radius is extended 1,000 meters from these stations, the population of the extended area increases to 9,834 people. Of these, 63% are between the ages of 18 and 66, and 31% are between the ages of 25 and 49.



Source: U.S. Census Bureau 2010

The CDB is a principal destination given its high concentration of medical, education, and recreational services and assets. In addition, its cultural center is commonly visited by local and external tourists. The CDB receives thousands of visitors daily.

The CDB is served by principal road arteries such as the PR-22 and PR-5; and highly trafficked routes such as the PR-162 and PR-2. These highways serve important commercial and industrial sectors that are located on the district limits, in the immediate surrounding area, and the extended service area. Over a quarter million people travel daily along the principal corridors that serve the CDB, namely the PR-2, PR-167, PR-5, and PR-29. In addition, the urban metro or "Tren Urbano" that connects San Juan and Bayamón moves over 45,000 passengers daily.

Revitalization of the CDB – a history of accomplishments and aspirations to achieve

The traditional center of Bayamón and its immediate surroundings, similar to other centers in Puerto Rico, were developed for years with large problems associated with urban disorder: increases in the use of the automobile and vehicular congestion, inadequate construction, frequent flooding events, non-conforming and conflicting uses, the development of commercial activities in spaces designed for other uses, and the lack of attention to urban goods and landscaping. This situation has been aggravated by the intense flow of people that seek to satisfy their basic needs near their place of residence; it has resulted in a city that operates in spaces and designs that are not adequate for the current volume of flow and social interchange. Progressively, the need for more comfortable spaces has directed much residential and economic activity far away from the center, resulting in abandoned, vacant, and deteriorating infrastructure in public areas. In an effort to curb this negative tendency, government action has been oriented towards facilitating the establishment of institutional uses. Nevertheless, these are only active during the daytime, and they do not provide sufficient life so as to make the area economically viable. In 1975, the firm *Arquitectura y Planificación de Torres, Beauchamp y Marvel*, developed a Plan that put emphasis on the diagnosis of existing

problems in the Traditional Urban Center (TUC). They defined as a priority the renovation of the center of Bayamon and proposed the following objectives: create a strong regional center; promote recreation and socio-cultural activities; stimulate the development of business and services; create a center with a solid image and identity; locate within the center the offices and services of the central and municipal government; develop a new way of life and a strong sense of community that will serve as a model for other centers in Puerto Rico.

After approving Law 81 of 1991, known as the Autonomous Municipalities Act, the municipality developed its first Territorial Plan, which was initially adopted by the Planning Board in 1992. The Territorial Plan proposed the selective intervention in various areas. Studies on the traditional center were also revised. This resulted in the proposition of an Area Plan for "Ensanche Norte" (or Northward expansion), elaborated by the firm *Sierra, Cardona, Ferrer*. It also resulted in the Area Plan for the "Paseo Parque" which was implemented and completed in 1999, and consists of a block of modern offices located in the center that today house the Bayamon Campus for the Metropolitan University (UMET).

In the past years, the Central District has been recognized as one of the most important areas for redevelopment in Bayamon, and promotes the application of the principals of smart growth, based in Transit Oriented Development.

The CDB in its geographic context permits a great diversity of uses of different intensities and categories. Multiple activities converge in the CDB, including commercial and services, sports and recreation, institutional, cultural resources, natural and constructed resources, historical and modern uses. The CDB is active during daytime hours, full of people who come to work, shop, study, or run errands. Nevertheless, each evening the center becomes desolate as the public transitions to the residential zones that were developed between the 1960s and 1980s.

In 2009, under the administration of the Hon. Ramón Luis Rivera Cruz, the Planning Office directed by Plan. Eileen Pouerymirou developed and adopted a Revitalization Plan for the Central District. The Plan document (3 volumes) describes the public policy and objectives for the development of an organized physical space that foment an economic order of significant impact in the context of the Metropolitan Region of San Juan. The documents of the Plan also include an array of Design Guides whose purpose is to invite interested sectors to invest in the CDB, within the context of the vision, parameters, and guidelines outlined.

Opportunities that the CDB Presents

- The hierarchy of the Center in terms of its diversity of uses in comparison to other areas in Bayamon.
- The neighborhoods contained within the Central District and the level of attraction that the Center exerts over adjacent neighborhoods.
- Points of attraction located in the Central District.
- Real estate opportunities in the vicinity of the Central District.

Multiple initiatives described in the Plan have been initiated, resulting in important transformations in the Bayamon CBD. Observable accomplishments are improvements to public infrastructure (electronic surveillance, renovation of pedestrian areas, regulation of vehicular traffic, public art, landscaping, and the provision of elements of urban commodities; the attraction of new residential populations to the CDB, new commercial initiatives that also attend to commercial activities previously absent in the CDB; the strengthening of the health and education sectors, each with consolidated service headquarters with regional importance. The following pages summarize the public policies adopted by this Plan as well as the array of strategies and interventions that have oriented development over the most recent past decade.

POLICIES, STRATEGIES, and INTERVENTIONS IN THE CBD

POLÍTICAS PUBLICAS	DENSIDAD	INTEGRACIÓN	FUNCIONALIDAD	TRANSPORTE COLECTIVO	FORMA URBANA	ORIENTACIÓN PÚBLICA	INVERSIÓN PRIVADA
PP1 - Desarrollar Nuevos proyectos de Vivienda	Tamaño de Bloques	Usos Existentes	Formalizar la presencia y el reconocimiento de Nodos de Interacción e Integración	Multiplicidad de Opciones	Continuidad de la Fachada	Ordenamiento a Tres Escalas	En armonía con Políticas Públicas
PP2 - Construir y desarrollar una ciudad con dotaciones y amenidades que fomenten la salud y el intercambio cotidiano en el contexto de una urbe agradable y próspera.	Tamaño del Solar	Usos Propuestos	Rotulación y Arte	Mejoramiento de Facilidades de Apoyo	Edificación	Rotulación Distintiva	Incentivos a la Inversión
PP3 - Fortalecer los vecindarios existentes con mayor actividad económica, una mejor condición social y una participación activa en la toma de decisiones.	Ocupación del Solar	Provisiones de Infraestructura Adecuada	Contenido	Densificación intensificada en entornos selectivos e inmediatos a las estaciones del Sistema Intermodal	Paisajismo	Respeto y Uso de Referencias del Contexto Natural	Mercados / Oferta / Usos
PP4 - Proveer para el desarrollo de servicios de calidad (salud, educación, recreación, seguridad, gobierno), disponibles a todos los residentes.	Número de Pisos	Identificación Adecuada de Sistemas de Transportación	Estacionamientos	Diseños orientados a armonizar la actividad peatonal con la vehicular	Rotulación y Arte Público	Respeto y Uso de Referencias del Contexto edificado	Núcleos de Empleo
PP5 - Vigorizar los negocios existentes y atraer nuevas inversiones.	Distribución de Usos Mixtos	Nodos de Actividad y Transición entre Sectores	Transporte Colectivo			Resaltar Valores y Símbolos Positivos del DCB	Simplificación de Reglamentación y Trámite
PP6 - Mediante la arquitectura paisajista integrar el ambiente natural con el construido.	Reutilización de Edificios Existentes	Distribución de Usos Mixtos	Prohibir la Invasión del Espacio Público				Una Estructura Gubernamental Eficiente y Responsable
PP7 - Mejorar los flujos peatonales y vehiculares	Ocupación de solares vacantes (Infill)	Rotulación y Arte Público					
PP8 - Proveer y promover un mantenimiento adecuado para la ciudad		Mobiliario Urbano					
PP9 - Fomentar e incentivar el uso de energía renovable, la conservación de agua, el reciclaje, y toda otra medida adoptada en pro del desarrollo sustentable							

Source: Revitalization Plan for the Central District of Bayamón, Vol. 2

THE CENTRAL DISTRICT OF BAYAMON AS AN INNOVATIVE CITY

It is the **PRINCIPAL OBJECTIVE** of Bayamon the consolidation of its Central District as a node of outstanding activity and attraction for the Municipal Region. The principal goals of the development strategy include greater economic development, increased density of the area, as well as the orderly redevelopment of the existing activities and communities. The urban metro terminals that serve the Central District are envisioned as portals to a diverse, active, and dynamic center. Since the last decade, the revitalization of the Central District has been responding to solving the problems associated with the accelerated development that Bayamon has experienced. Nevertheless, it is guided by a clear vision for the foreseeable future, and the outline of concrete actions geared towards achievements.

VISION

To develop a Central District in Bayamon that is modern but respectful of its past, accessible and pleasant, active but comfortable for all life-styles, with services and amenities for residents and visitors, and with a vibrant and robust economy.



Source: Revitalization Plan for the Central District of Bayamón, Vol. 2.

Bayamon--and its Central District in particular--have the elements to become an **innovative city**. The components necessary to achieve this already exist, while others can be developed. The health services industry could be an important component of what could become the innovation conglomerate in Bayamon, if the value chain is strengthened to increase supplies and support services for medical management. This theme is further explored in the analysis of interviews carried out to these sectors.

One of the key elements in the development of an innovative city is the existence of spatial proximity between components of the system. In the case of Bayamon, the fact that the CDB has a concentration of diverse facilities and services with regional significance (e.g.: sectors such as retail, food services, medical and health, transportation, and culture) facilitate the development important agglomeration economies. It is important to understand that, if concerted actions from these sectors of the economy are achieved, this in turn facilitates the development of innovations conducive to increasing their efficiency and scope.

One important aspect in the process of developing Bayamon as an innovation city is managing to locate within the city the necessary supply chains. For example, all of the medical facilities have extensive supply networks that most certainly span the whole island. The scale of these facilities and their purchasing capacity facilitates that the supply chains be located in Bayamon. This would reduce their expenses and would generate economic activity in the Municipality. Locating activities related to these supply chains in the urban center is feasible, as typically the goods and services are not manufactured in Puerto Rico.

Innovation City

The concept of an "Innovation City" or "Innovation District" refers to a complementary model of urban and economic development for "geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators. They are also physically compact, transit-accessible, and technically-wired and offer mixed-use housing, office, and retail"

B. Katz & J. Wagner, *The Rise of Innovation Districts: A New Geography of Innovation in America*. Brookings Institution, 2014

Another key component to convert Bayamon into an innovation city is the creation of collaborative networks whose purpose goes beyond achieving the economies of scale mentioned. One condition of the innovation process, and of converting that process into economic activity, is the **existence of collaborative networks that make possible the creation and diffusion of knowledge**. This process of institutional learning is an intrinsic part of the infrastructure necessary for an innovation city. These collaborative networks can be internal to the city, as well as external, and by converting the city into an axis that integrates these knowledge flows. The CDB can become both this intra-municipal and inter-municipal axis.

The networks mentioned above occur between businesses as well as different types of organizations, including educational and research institutions. The medical, technological, and university sectors are essential in this process; as such, they are key sectors for this study.

Bayamon has emphasized in the past aspects of commercial development, such as the development of housing, passive and athletic parks, and the enhancement of large and medium sized businesses in particular spaces of the municipality. This implies creating the necessary conditions so that new development can occur in Bayamon, such as new businesses, products, technologies and solutions. This requires the convergence and collaboration of disparate and specialized sectors.

This new mode of development implies identifying in detail the economic, physical, and collaborative assets that form an integral part of the development of Bayamon as an Innovation City. Bayamon should develop an integrated plan to take advantage of these new tendencies of economic development, within the framework of the physical scale and financial reality. The plan must also integrate the multiple municipal resources available for entrepreneurial, urban, community, transportation, human capital, security, and health development. This requires the formulation of appropriate incentives to support the process.

Incubators and the Innovation Process

Over the past 15 years, the concept of incubators as important instruments of economic development has gained strength and relevance. By serving as a junction between the private sector, academia, and government (especially municipal and regional), they play an important role in fomenting the development of small and medium sized businesses. Before 2000, incubators were known and used in various countries of Europe and the United States, with varying levels of success.² At present, they are viewed as fundamental in the process of creating learning cities, given their role in fomenting a culture of entrepreneurship and self-management.

Incubators as models for entrepreneurial development have suffered large changes throughout the past decade. From being contextualized as a physical space that reduces barriers to market entry for the development of small businesses (e.g.: office space, financing of administrative costs), the concept has evolved to adopt successful technology-oriented startup initiatives. The focus remains grounded in the collaborative, personal, local and experimental processes that characterize the experience of new ventures. Under this new paradigm, the role of office space loses importance in comparison to informal processes of mentorship, idea sharing, and collaboration. This is seen as more of a 'bottom-up' strategy, instead of the traditional 'top-down' processes with predetermined formulas.

Fundamentally, incubators are places where transfers of knowledge and skill occur, and where diverse services are provided. Some of the services that they provide are: physical space for offices and laboratories, professional advice, and contact networking for possible alliances or financing. For example, business incubators are an economic model that assists, supports, and orients any entrepreneurial project that desires to grow but lacks the impulse or initiative to convert itself into a reality.

The concept of the incubation of business accelerators has recently emerged and is focused on the rapid

Services Offered to Businesses by Incubators
Support to establish the business
Assistance in obtaining financing
Development of a business plan
Physical space for business operation in initial phases
Training workshop and entrepreneurial formation
Marketing and publicity for the business
Legal services support activities
Accounting support activities
Administrative support activities
Technical assistance
Consulting
Leasing of facilities
Sharing equipment or personnel
Commercial strategy support activities
Industrial real estate support
Reception; communal space, conference room; copy center; telephone; fax; internet; security; parking

² Véase Organization for Economic Cooperation and Development (1999). **Business Incubation: International Case Studies**. OECD Publication Service, París. En:

<http://www.Bus.Incubation.Int.Case.Studies.OECD.1999.pdf> ; National Business Incubation Association (2012). 2012 State of the Business Incubation Industry. NBIA (October). En: http://www.nbia.org/resource_library/review_archive/1012_02.php

creation of businesses. Accelerators also work with businesses that have already been created.³ In a traditional incubator, the incubation period is between one and three years. In an accelerator, it is between six months to a year. The models of incubators implemented (public and private) have established agreements and collaborative or supportive relations with University entities or research centers. This is one of the most important characteristics that has contributed largely to their success.

In general, an incubator is concentrated in an area or particular focus, for example, in high-tech (e.g.: software development, production processes, clean energy), services, manufacturing, or emerging businesses in science and technology. Once a business has completed the incubation process, a follow-up process begins. This is the post-incubation phase, in which the newly formed business can continue having access to new training and financing opportunities.

Since the last decade, regional initiatives in Puerto Rico have been used as a development instrument. Currently, there exist five regional initiatives: INTENOR (2002), INTECO (2001), INTENE (2003), DISUR (2006), and PRTEC (2000). Of these initiatives, PRTEC (ViTec2) was developed by the Industrial Development Company (CFI for its Spanish acronym). The other four were municipal initiatives or of the University System Ana G. Méndez (SUAGM). Of the five regional initiatives three are in the operational phase of model incubators: INTECO, INTENOR, and PRTEC. The five regional initiatives in Puerto Rico do not include all of the municipalities⁴. It is important to distinguish that the municipalities of the metropolis have abstained from participating in these initiatives.

In addition to the incubator model, in Puerto Rico there exist other private initiatives to support the development of startups, which are concentrated in certain areas, such as technology. These are also incubator models, and they have become popular with the Information Technology revolution. Examples are *Founder Institute Puerto Rico* and *Startups of Puerto Rico*.⁵ The *Guayacán Group*, through its business accelerator *Guayacán Venture Accelerator*, provides a complementary conference and seminar program for existing businesses, and interaction with potential investors.⁶

Implications for Bayamon

Bayamon has critical mass and diverse economic activity, which presents opportunities for the incubation of technology-intensive businesses. Local factor endowments provide that the Central District be consolidated as an innovation center: its streets, commercial corridors, and human resources provide the conditions to make possible the shift towards a knowledge and

³ Para una identificación y explicación de las diferencias entre ambos modelos, véase Thomas van Huijgevoort (2012), *The 'Business Accelerator': Just a Different Name for a Business Incubator?*, Utrech School of Economics (Junio 28). En: <http://dutchincubator.nl/wp-content/uploads/sites/5/49.pdf> También su red, www.globalacceleratornetwork.com.

⁴ El término metrópolis se refiere a Bayamón, Cataño, Guaynabo y San Juan.

⁵ Véase <http://www.startupsofpuertorico.com>, y Piloto 151 <http://www.piloto151.com/event/founder-institute-information-session>

⁶ Grupo Guayacán, Inc. (2014). *Guayacán Venture Accelerator*. En: <http://www.guayacan.org/gva.php>

technology-oriented economy. Orchestrated revitalization and continued improvements to the urban living experience, as well as the concentration of the knowledge of the creative class within the CDB, together could have positive impacts on sectors that already have a significant presence in the CDB. These include the health, technology, university, and small business sectors, as well as a large base of megastores and other businesses that could be integrated into the process.

The incubation and promotion of technology intensive businesses in Bayamon should pay attention to the following factors:

1. Access to financing for the businesses in incubation (and those already formed), whether through debt, private capital, and/or subsidies.
2. Networking between entrepreneurs, via networking events and through electronic platforms.
3. Access to high levels of technology and programs of technology transfer.

In Puerto Rico, the sources of financing are generally the following: (a) public funds (of regional or municipal initiatives); (b) university institutions; (c) EDA funds, and; (d) their own revenue, usually generated through rent to the businesses in the incubator. At the international level, over the years there have been changes in the conceptualization of incubators, from being providers of infrastructure and services, to focusing on the entrepreneurial activity of generating earnings, which is one of the characteristics of a business accelerator. Nonetheless, for the large majority of incubator models, the principal sources of income are public funds and donations, as well as universities.

There exists the opportunity to foment that the university initiatives are inserted into a larger project propelled by the Municipality of Bayamon, and the Department of Economic Development of the United States. In addition, it is necessary to identify sources of continuous financing such as, for example, creating a special tax on movable or immovable properties, that does not necessarily have to extend throughout the entire geography of Bayamon. Another possibility is soliciting private contributions from the principal businesses of Bayamon, who through a special tax provide the capital for an economic development fund associated with the development of the initiative to position Bayamon as a 'Learning City'.

It is recommended that a plan or program of concrete actions be developed, to be presented to the different sectors and interests groups in order to: (1) strengthen the project via citizen participation processes; (2) begin the process of fomenting a culture of learning, creativity, and innovation in the City of Bayamon; (3) establish collaborative links with special initiatives; and (4) show commitment to the project agents and key sectors.

Project E4-Bit

In April of 2016, the city of Bayamon signed a collaborative agreement with *Engine 4*, a private local technology group, to develop a regional technology center called E4-Bit. The initiative is supported by various strategic public-private alliances in the city, as well as private groups. It seeks to extend present alliances with the U.S. Department of Commerce., the Economic Development Administration (EDA), and to formalize others under consideration with the Minority

Business Development Agency (MBDA). The project came about as a response of the municipality to the research work carried out in this report. This project forms one of the principal anchors of the development focus based in innovation and entrepreneurship.

The E4-BIT project will be the first integrated technology and innovation platform or HUB at the regional level. It will be located in a municipal building of 24,000 square feet, with the potential of expansion to 40,000 square feet. E4-BIT functions as an integrated system of: 1) co-working areas in shared space; 2) education accelerator programs / incubator laboratories for entrepreneurs and new businesses; and 3) technology service centers and innovation exportation, among others. It is expected that the initiative will create between 150 and 200 new direct and indirect jobs yearly.

The facilities are located adjacent to the *Onofre Carballeira* sport complex of the city of Bayamon, which connects with two principal highways – PR-2 and Pr-5. The locations of direct initial impact include the Central District of Bayamon, as well as the metropolitan area of San Juan and the three (3) cities served by the only existing urban metro system in Puerto Rico: San Juan, Guaynabo, and Bayamon. The strategic location of the facilities makes E4-Bit the only co-working space in Puerto Rico located directly near a train station. The metro system also serves four (4) principal academic institutions: 1) University of Sagrado Corazón; 2) Polytechnic University of Puerto Rico; 3) University of Puerto Rico, Río Piedras campus; and 4) Metropolitan University.

E4-BIT will impact, strengthen, and foment the growth of the regional services sector

- E4-BIT currently has 12 startup businesses in its co-working space.
- The new E4-BIT facilities will have office space for 30-35 additional entrepreneurs, as well as laboratories and modern infrastructure.
- With its new facilities, E4-BIT will be the first innovation platform directly served by the Urban Train of Puerto Rico.
- The project foment an entrepreneurial spirit and the concept of an intelligent city, via the adoption of innovation as a discipline.
- It is estimated that E4-BIT will create between 150 and 200 new jobs.
- The project will not only impact Bayamon, but it will add value to technology initiatives and programs in Puerto Rico.

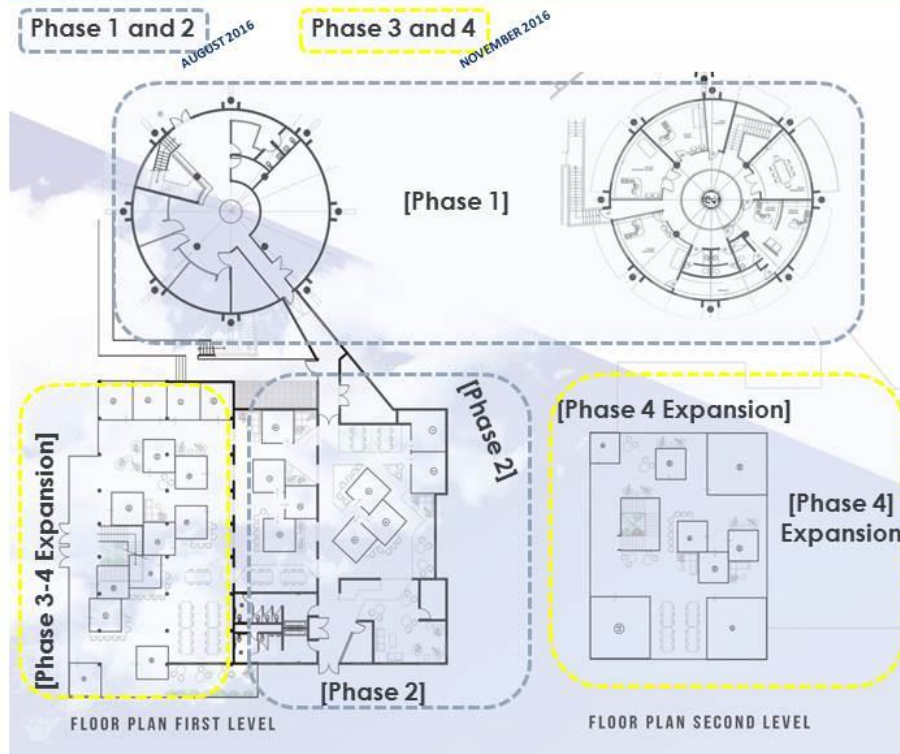
E4-BIT foments alliances through innovation

- E4-BIT is an example of how strategic alliances generate intelligent solutions for innovators and entrepreneurs of all productive groups.
- Essential to the success of E4-BIT are collaborative communities that exist between education and industry, to help translate ideas into viable business solutions.
- E4-BIT provides an integrated innovation platform that goes beyond academic institutions, by also providing points of connection between public and private agencies.

- Cooperation between entrepreneurs and businesses is generated through organizations like Engine 4, Microsoft, Guayacán, H3, Startup Weekend, EDA, MBDA, and the University of Puerto Rico, among others.



• Project Phases and Timeline



- Existing building infrastructure include two levels.
- Proposed office distribution plan suggests up to 30 spaces with additional potential for expansion.
- Building improvements and construction is fragmented in four (4) phases.
- **Bayamón** is currently financing improvements of phases 1, 2 in full and partial phase 3.
- Phases 3 and 4 are expected to be completed in November 2016.

E4-BIT: Integrated Transportation



E4-BIT: Regional Technology HUB



• Partners and Collaborators



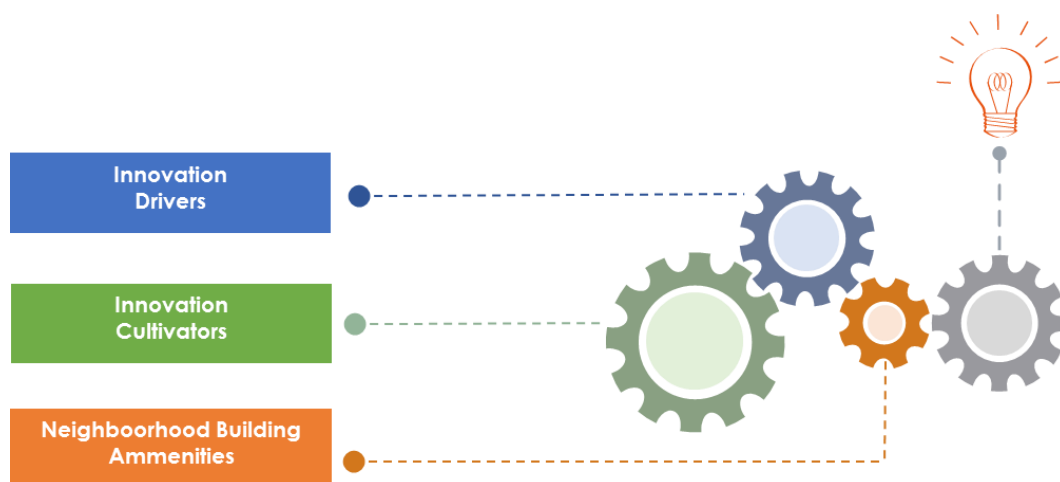
PRINCIPAL TYPES OF ASSETS OF INNOVATION DISTRICTS

The following sections present a description of the various characteristics of the municipality of Bayamon, particularly those essential for the development of an innovation district within the CDB. These characteristics- which are also usually assets – permit an analysis of the current condition of the municipality, while simultaneously facilitating the development of specific recommendations that ultimately serve to revitalize the CDB and create new economic activity in the urban realm.

The assets described are organized according to the typology established in the writings of Katz and Warner on the principal components of innovation districts, except a few additional elements such as the district brand, and specific examples of public and private interventions. The analysis follows a semi-structured diagnostic of the current condition of the CDB in each of the characteristics described, followed by a public policy recommendation. At the end of the section, a series of concrete recommendations are presented which could be executed by the municipality, as well as institutional proposals that would inject vitality into the project.

Economic Assets

These assets consist of the businesses, institutions, and organizations that promote and support the existence of an environment of innovation. In the context of innovation districts, these assets are classified in three categories: “innovation drivers”, “innovation cultivators”, and neighborhood building amenities”. The following section presents a description of each one of these assets, its current condition, and its implications for public policy.



A. "INNOVATION DRIVERS"

Innovation drivers are defined as "The research and medical institutions, the large firms, start-ups, and entrepreneurs focused on developing cutting-edge technologies, products and services for the market. Due to regional variations in industry strengths, each district is comprised of a unique mix of innovation drivers." (Katz & Wagner, 2014). The type of business that is typically located in innovation districts includes high-value, research-oriented businesses, such as the applied sciences sector, application programmers and developers, businesses that require creative resources such as architecture, design, graphic design, marketing, and highly specialized manufacturing businesses, whose products are manufactured in batches. (Bruce Katz and Julie Wagner).

Current Condition

The original development initiative for the municipality comprises certain conglomerates of businesses and organizations that are appropriated in order to leverage a development strategy based in innovation districts. These conglomerates include the health and post-secondary education sectors. At the same time, there is a whole range of businesses associated with the creative economy that are relevant to said strategy. In addition, there are others whose importance should also be featured as key pieces of the process.

Health Sector

With regards to the health sector, the municipality has one of the principal concentrations of medical facilities in Puerto Rico. According to the Bureau of Labor Statistics, the health sector in Bayamon represents 12.9% of employment. Its anchor institutions are numerous hospitals, including HIMA San Pablo, Hermanos Meléndez, and Matilde Brenes Hospital. Together, these offer a total of 790 rooms. Some of these facilities also have medical office space, and in their surroundings other types of health services have developed. Some of these facilities are located in the Central District, such as HIMA San Pablo and Hermanos Meléndez. Nevertheless, the others are located just a short distance away, which facilitates promoting the cooperation of these institutions in the Plan for the development of an innovation district.

Employment in the Health Sector 2014

Geography	Total Employment 2014	Health Sector and Social Assistance	% of the Health Sector
Puerto Rico	907,001	91,496	10.1%
Bayamon	56,211	7,266	12.9%
% of Bayamon	6.2%	7.9%	

Source: Bureau of Labor Statistics.

In fact, the interviews carried out with key representatives of the sector reflect multiple areas of collaboration, particularly related to the promotion of the development of businesses and services that support common needs of the businesses. These institutions have high demand for diverse types of services and equipment, which offers opportunity to promote the establishment of businesses that develop innovative solutions for the sector. The interviews also identified that HIMA conducts investigation to strengthen healthcare management. To the extent that this new knowledge could be shared by the institution in activities related to the CDB, it could form part of a program of activities associated with innovation. Part of the challenge resides in creating the conditions to promote collaboration between the municipality, industry, universities, and organizations, in the interest of promoting a culture of experimentation and innovation.

Hospitals in Bayamon

Hospital	Beds 2014
HIMA-San Pablo Hospital	421
Hospital Hermanos Meléndez	241
Hospital Matilde Brenes	128
Bayamon Regional Hospital	102

Source: American Hospital Directory.



Medical Services

- Hospital San Pablo;
- Hospital Hermanos Meléndez
- Bayamón Health Center
- Multiple related services such as medical offices, radiology centers, and nursing homes for the elderly.
- Hotel (periphery of the CBD)
- Santa Rosa Mall

Creative Industries

As was mentioned, another set of businesses relevant to this plan are those associated with 'creative industries'. This term refers to economic activities that generate or tap into information or knowledge. According to Howkin's vision (2001), businesses whose conception is grounded in the creative economy include marketing, architecture, art, design, fashion, music, performing arts, advertising, research and development, software, games, electronic games or video games, television, and radio. In essence, they are commercial activities that require a high degree of human creativity as an essential resource.⁷

The Central District has few businesses associated with the creative economy. According to the Business Inventory of the municipality, and the physical inventory collected on the CBD, there are only a small number of businesses in this area. Among these are two design-oriented businesses, an information technology consulting business, a food manufacturing business, and an independent

⁷ According to the Business and Export Company of Puerto Rico, creative industries are divided into four areas: design (graphic, industrial, fashion, interior), arts (music, visual arts, performing arts, and publications), media (application development, video games, online media, digital content, multimedia), and creative services (architecture and creative education).

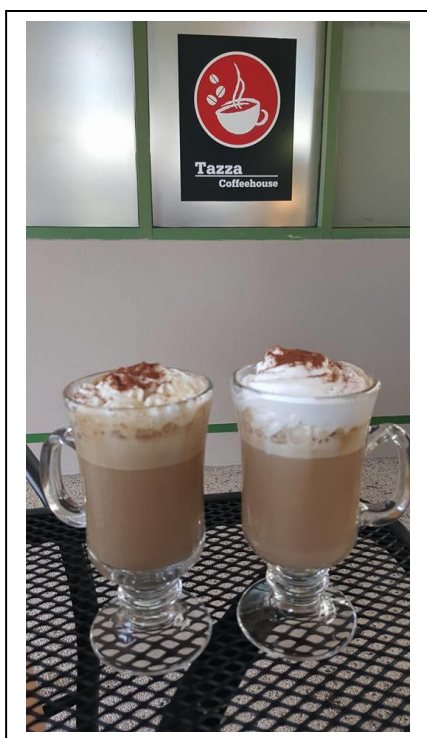
arts business.*⁸ Nevertheless, there could be many more businesses association with innovation, given that there are more than a 100 businesses without a NAICS code⁹.

The municipality has begun moving forward with efforts in this direction. Multiuse projects have been developed in the traditional urban center. These integrate housing for artists with a work space and art commercialization. At the same time, housing has been developed for young professionals with other creative skills.

Name	NAICS Description
Coyo Outfits	Special design services (including interior design, industrial, graphic, and fashion)
Custom T-Shirts	Advertising and related services
Natoarte	Artists, writers, and representatives of the independent arts
Technology Information Consulting Group, Inc.	Design services for computer systems and related services
Tostao	Manufacturing of foods including coffee, tea, seasonings, and condiments

Gastronomic Sector

Another important component associated with the above are the creative tendencies in the gastronomic sector. In Puerto Rico, there has been a strong gastronomic development which fuses diverse culinary tendencies. This has been influenced by the Caribbean culture, the strong presence of a high level hotel industry, the in-migration of persons of diverse countries, and the development of gastronomic programs in local universities such as UNE, UPR in Carolina, the Hotel School, among others. These elements have created the ideal conditions for the sector to develop into one recognized on an international level.



Inventory of businesses carried out by the municipality (NAICS).



"Café 2150 Coffee Shop": the Agroindustrial Services Company recently inaugurated the first coffee roasting site in Bayamón in 2016.

Currently, the creative or high-quality food niche has provoked the development of new businesses in this area. The sector in general has seen an economic revitalization in certain sectors of San Juan, such as Old San Juan, Miramar, De Diego Avenue, and Loiza Street. In the Central District of Bayamón, new businesses have come about from this gastronomic tendency. One example is the coffee roasting establishment Cade 2150 Coffee Shop. Another is the Urban Kitchen project, which organizes a space which accommodates employment initiatives in creative gastronomy through food trucks. Yet another is the Majaditos Grill Restaurant. There is also a collection of gastronomic businesses in the old market place, today known as EL MERCADO. This place houses recognized restaurants such as Doña Ana, EMIDIAN restaurant, and other localities which serve coffee (TAZZAS) and ice cream, or which offer the sale of natural products, fresh fruit, vegetables, and other delicacies.

Iconic Businesses

Finally, within the municipality there are businesses operating that are fundamental to integrate into this process because of their characteristics and history of success. Here a selection of these businesses is presented. For example, Goya Foods is distinguished as an example of entrepreneurship and innovation with international recognition, with strong ties in Puerto Rico and specifically to the municipality of Bayamón. Other businesses considered important given their innovation and entrepreneurial success include: Flexible Packing Company, Inc., Juncos Steel Corporation, American Tools Inc., Kindom Packing Company, Inc., Pan Pepín, Inc. On the other hand, there are various local and international businesses that demand creative services such as: V. Suárez & Co., B. Fernández & Hnos, Inc., Payco Foods Corp., Puerto Rico Supplies, Inc. and The Clorox Company.

ICONIC BUSINESSES



Recommendation

In its initial outreach, Bayamon can leverage local players with the potential to foment the development of new businesses in the industries of gastronomy, information, specialized design, and other creative service businesses, in order to supply local and international markets.

- Bayamon has businesses and university organizations which could leverage the development of the innovation district. The scope of leverage is consistent with the nature and characteristics of Bayamon, and its capacity to attract investment and development in the context of the creative economy.
- The municipality also must foment that more small businesses associated with the creative economy agglomerate in the CDB. It should focus on those businesses that are less dependent on the need for parking and whose human resources have a preference for urban spaces serviced by multi-modal transportation.

B. INNOVATION CULTIVATORS

Innovation cultivators are defined as “the companies, organizations, or groups that support the growth of individuals, firms, and their ideas. They include incubators, accelerators, proof-of-concept centers, tech transfer offices, shared working spaces and local high schools, job training firms and community colleges advancing specific skill sets for the innovation-driven economy” (Katz & Wagner, 2014).

Current condition

With regards to this type of asset, the municipality has a strong post-secondary education basis, which will need complimentary incubators, business accelerators, proof of concept centers, technology transfer offices, and collaborative work spaces within the CDB. In fact, part of the literature indicates that the very environment created by businesses with specialized services in the area promotes a scenario of innovation. In other words, **if various highly specialized companies had their operations in the CDB, the synergies between them would provoke a culture of innovation in the District.**

There are 31 post-secondary education institutions in the municipality, with an enrollment of 30,666 students in 2014. Of these 11 are universities and 20 are technical colleges. Nevertheless, one limitation of the universities in Bayamon is that they are not research oriented institutions.

On the other hand, the municipality has already moved forward with the E4-Bit project, whose focus integrates the idea of co-working, accelerated education programs, and incubator laboratories for entrepreneurs and new businesses. It also has a center for technology and exportation innovation services, among others. The co-working spaces offer the affordability of a business incubator, while at the same time they reproduce the open and integrated work dynamic with other components of the city.



Education Centers

- Ana G. Méndez University
- Agustín Stahl School;
- Sta. Rosa College
- School for Television Arts
- National College

Recommendation

Bayamon can benefit from the model of co-working spaces¹⁰ in order to leverage the development of business and the commercialization of ideas. The project E4-BIT is already a reality that fulfills this need. At the same time, it is important to capitalize on the technical or specialized colleges that are concentrated in the center of the city, and encourage their participation with E4-Bit, motivating them to develop similar concepts in their areas of specialization.

- The municipality of Bayamon could adopt a public policy to incentivize the development of collaborative working spaces, and integrate programs directed towards the entrepreneurial ecosystem that is developing in Puerto Rico. In addition, the municipality has the opportunity to capitalize on the array of knowledge of the post-secondary institutions that are distinguished in the area.
- The University of Puerto Rico in Bayamon and the Interamerican University offer programs in electrical engineering and computer engineering, which can nurture innovation and other components of the creative economy. The creative programs in the universities in Bayamon suggest that the plan should encompass collaboration with technical colleges as well as universities outside of the Bayamon area.
- In the Municipality, there are more than 40 programs offered by more than 10 institutions, including universities and technical colleges. Among the universities, there is the University of Puerto Rico with transfer programs in Commercial Publicity and Music. Another is the Interamerican University with a bachelor's in Communication in Media Production, and associated degrees in Photography and Audiovisual Communication Technology.
- Other programs are offered by technical colleges like ICPR Junior College, the College of Cinematography, Art, and Television, Advance Tech College. These include programs in Television Production and Directing, Digital Graphic Design and Website Development, Specialties in Network Administration, Computer Information Systems, among others. The

¹⁰ Co-working spaces permit that professionals and freelancers obtain a work space at a relatively low price to the extent that the fixed expenses of the office environment are shared among a larger group of people. Given that these are open spaces, they permit that members of the creative industry share ideas and experiences.

following table presents in details about the programs offered at the university and technical colleges in Bayamon related to the creative industry.

UNIVERSITIES AND TECHNICAL COLEGES WITH OPPORTUNITIES IN THE CREATIFVE INDUSTRY

 Computer Sciences	 Marketing and Sales Computer Programming	 Communication Arts Arts and Sciences Computer Sciences Computers and Networks Communications Marketing Marketing and Sales Computer Information Systems
 Marketing and Sales Coordinator	 Specialist in Computerized Systems with Microsoft Network Integration Technology	 Colegio de las Ciencias, Artes y Televisión
 Analysis and Design of Systems Marketing Computer Programming Sales and Marketing	 Digital graphic design and Webpage development Specialist in Network Administration Management and Marketing Computer information systems	 Cinematography Television Directing Digital Photography Voice-over Television Production Camera and Lighting Technician Editing Technician Television Technician with a Concentration in Camera and Illumination
 Sales and Marketing	 Information Systems Engineering and telecommunications technology Networking and application development technology	 Commercial Art and Design (Graphic Design and Labeling)
 Architectural Draftsman Marketing Computer Programming	 Networking Computer Science Communications (journalism) Marketing	 Media Production Communications Photography Marketing Artistic Events Production Audiovisual Communication Technology
 Marketing Transfer to Campus in Carolina for Commercial Publicity Transfer to Río Piedras Campus for Music		

Fuente: Recopilación de Estudios Técnicos 2014. *Es una muestra de los ofrecimientos, no están todas las instituciones ni todos los programas.

AMENITIES T
COMMUNITY

F A

A. AMENITIES

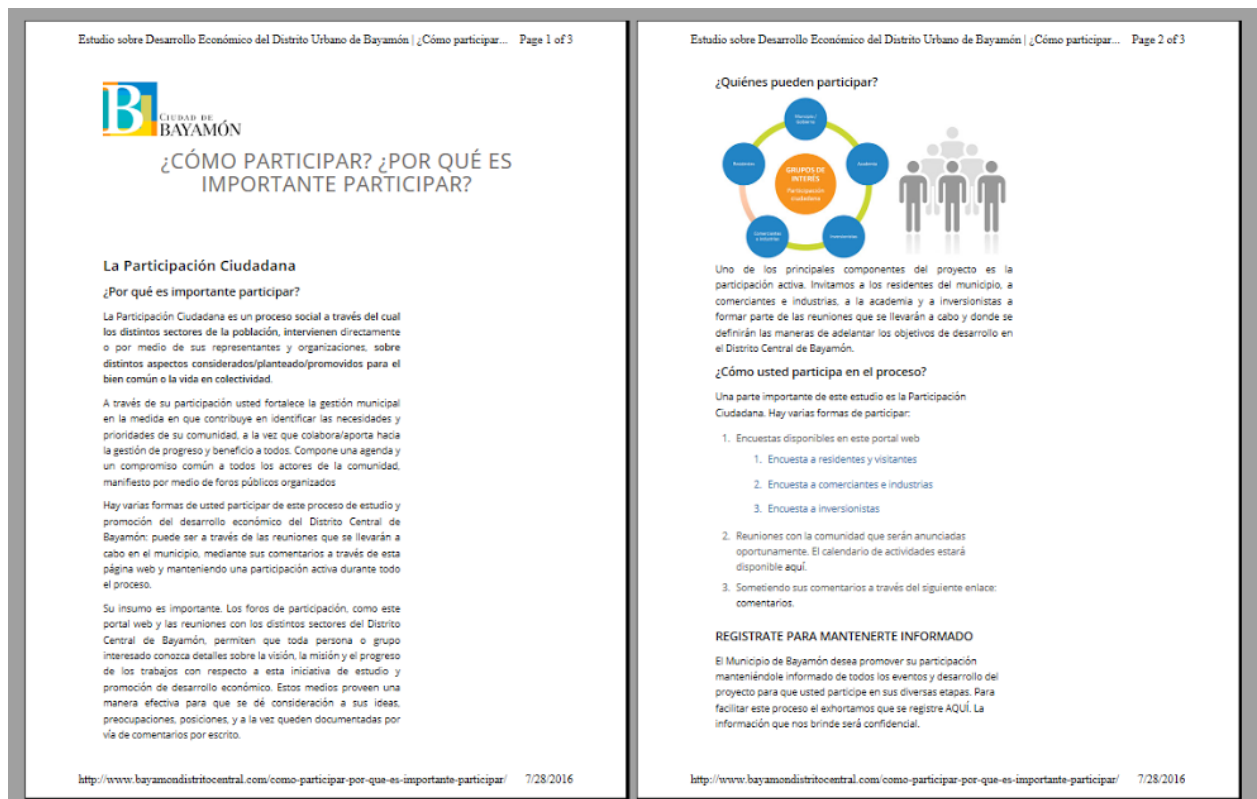
The development of the Bayamón Central District depends on multiple social, economic, urban, and cultural factors, which together determine the possibilities for the development of an innovative district. As the literature highlights, in addition to a group of actors who promote development and innovation, there is a group of conditioning variables that establish a vibrant environment and quality of life inside the Central District. **Specifically, these amenities condition the sustained use of the physical and social resources that the CDB offers. The development of this group of amenities does not occur in a void, but depends on a minimum of products and services that potential users of the CDB would require. The particular arrangement for this group of products and services will be determined by the final users of the CDB and the market's capacity to make them viable.**

B. COMMUNITY

Within the discourse of innovation, the concept of community is very broad and has even recently taken on a virtual meaning. That is to say, nowadays a community is not defined by its physical manifestation in the environment; rather, it could depend on other factors, such as communities created through social media, specialized communities that use the web as an instrument for work (e.g. hack-a-thons), or communities that simply use the web as a collaborative tool. These groups are characterized by being collaborative communities that share ideas, resources, business, work, entertainment, and spaces, among other experiences. **Successful experiences for communities of entrepreneurs and innovators have essentially happened in the context of urban spaces in large cities. Nevertheless, the literature outlines that a large part of these communities first developed online, and then transcended to physical spaces. The main asset of the latter are collaborative work spaces or co-working spaces, a concept that was discussed in the previous section. The traditional concept of a business incubator has evolved into a collaborative work concept that brings together multiple participants of the creative sort in a single workplace.** This type of facility replicates the social, cultural, and economic interactions that would otherwise happen in isolation. These spaces are an essential part of the group of amenities that users in an innovation district would demand.

Current Condition

Currently, the CDB has a website that was designed as a tool to guide and propel its economic development. Nevertheless, this project will need to become an actual virtual community, continually developing a conversation about the CDB as a center of innovation or a vibrant urban space. It should become a cohesive discourse about the CDB in terms of a community of entrepreneurs, or even as part of a common agenda for a group of non-governmental organizations (NGOs). The CDB has a community of residents, visitors, workers, and institutional users. However, these communities do not exhibit the characteristics of a dense and cohesive social fiber, with an exchange of formal or informal communications about its surroundings. It could be said that the users of the CDB show weak bonds with little reciprocity. The following image is an excerpt from the webpage described above:



Recommendations

- The municipality of Bayamón should capitalize on the structure it has developed in its web page, to give it content and facilitate the presence of the municipality in relevant virtual communities. It should also capitalize on the seasonal fads and trends that emerge in social media, designing initiatives that attract public and clientele to the CDB.

Creating a virtual community requires more than an informative space or a notice board. It requires establishing communications with potential users of the CDB regarding particular issues. The conversation cannot be totally open; it requires a specific platform, a common goal, and the use of mobile technology to enable communications. To achieve this, it is necessary to use social media, develop content and integrate already established "communities" from the metropolitan area, and develop a brand/image that is separate from public services.¹¹



...the use of social media, the development of content, and the integration of already established "communities" are essential...

known as "crowdsourcing". For a comprehensive concept of Organizing Without Organizations. Clay Shirky. The Penguin Press (2008).

C. INTERNAL AND EXTERNAL USERS OF THE CDB

Creating an innovation district inside the CDB entails the combination of internal and external resources. On one hand, it should be local or provincial enough to provide a space for the local and surrounding communities, without excluding the current users. On the other hand, it should incorporate a new group of users who create new economic activity inside the District. Therefore, the concept of an innovation district is not limited to its physical surroundings; it has to create new economic activity that maximizes local resources, while also expanding the impact footprint of the activity that occurs there. It is about turning the CDB into a local producer, but with a view to export its services and resources outside of its own surroundings. Therefore, the CDB needs to redefine its users through a non-exclusive¹², but focused process.



Bayamón, Puerto Rico.

Source: <http://www.Bayamóndistritocentral.com/>

Current Condition

The economic activity in the CDB's town center directly competes with business structures that currently work in its periphery with much more efficiently and very robust economies of scale. This market reality keeps the town center behind and limited to offering convenience for central district residents and workers (mostly institutional), who interact with the area during conventional work hours. That is to say, the CDB is mainly used by its residents and nearby communities, and by visitors

¹² By "non-exclusive" we are referring to not segregating or discarding the potential communication relationships that could occur among the multiple users —although heterogeneous— who gravitate within the CDB.

who have their education or work place there. Another group of visitors makes use of the retail trade, but this is limited to convenience or generic articles, without any particular specialties.

Recommendations

The CDB should include a more robust offer of “specialty shops” or specialized businesses to attract users from outside the District.

- To establish a robust district with operating hours outside the government's working hours, it is necessary to bring external users who require specialized products and services, with a certain degree of exclusivity in the CDB. The strategy is to complement the commercial offer, focusing on niche markets.
- The CDB, especially the town center, should adapt its “retail mix” or its demand for retail products to the **preferences of population segments that make up the creative class. These groups usually fall between the ages of 20 to 40. Increasing the use of the CDB will be closely linked to expanding its user footprint beyond its internal demand.**

D. DEVELOPMENT OF AMENITIES

The offer of amenities in the CDB is an essential part of the concept for the district's revitalization. This type of task has usually been forged from within the disciplines of urban planning and real estate. However, in its modern application, **it is a combination of disciplines that includes business, population, design, culture, community, social media, and lifestyles.** On one hand, offering these types of amenities provides opportunities for the current CDB community, inasmuch as it allows redesigning its environment, businesses, and points of interest. On the other hand, **a modification to the offer of products and services inherently brings a group of external providers to the CDB, which at the same time attracts a new group of potential users.**

Some examples for amenities

A district should provide services to its residents and workers, and also promote a greater number of visitors. To accomplish this, its environment should include a diverse offer of products and services. Ideally, a district should **ensure the existence of supermarkets and supply stores (according to the scale allowed by the market), restaurants, cafés, small-scale hotels, gyms, and local retail stores (e.g. bookstores, designer apparel, sporting goods) that fulfill the patrons' demands for contemporary urban consumption.**¹³

In this context, *design* as a conceptual framework plays a crucial role. The application of this concept is much broader than its traditional meaning focused on structure. **It is about integrating design with the multiple facets of the amenities the District offers. This includes the design of business entrances, commercial interior design, the design for the content of the commercial offer, business images or brands, and even the design for the use of public spaces and its interaction with the environment.** Ultimately, the innovation district requires pleasant, walkable, attractive, and practical spaces. **It is about maximizing the social interactions that occur in public spaces, but with the characteristics of a private space.**

¹³ The Rise of Innovation Districts, a new geography of innovation in America. B. Katz & J. Wagner. Brookings Press 2014.

Current Condition

The field investigation showed that the use of facilities is circumscribed to a group of typical users who require services from the CDB, but whose demand is limited. As CDB users change, amenities can be added that are attractive for these new groups. **The idea in this case is not to create the amenities and think that the groups will arrive—“build it and they will come.” It is about nourishing the CDB with a series of key interventions that stimulate the development of a new community. This community will in turn demand new amenities. Therefore, it is a socioeconomic arrangement determined by the demand, not the offer.** An advantage, in terms of guiding the initiatives in this direction and promoting the reach of the adopted vision for development, is that Bayamón has a **Design Guide, Vol. 2 of the Revitalization Plan for the Central District**, which constitutes an adequate instrument for an orderly revitalization.

Recommendations

The offer of products and services should tend towards a contemporary market of a specialized nature, such as designer products and “boutique” local production, and for a market with a higher income than the District’s own average income.

- The success of this type of investment depends on maintaining an offer for local groups with lower incomes, while simultaneously developing a higher end offer for external groups.
- The CDB's amenities should have a goal regarding the type of industry they seek to incentivize. Due to the district's own attributes, it should focus its offers on the development of services with high added value, so they will serve as a working platform for the resources produced by the educational institutions in the area.
- **The municipality should maintain a uniform policy to incentivize foreign franchises outside the town center and incentivize small—local and sophisticated—businesses inside the CDB.** To do this, the municipality could develop a series of incentives so that service companies (which usually require less parking infrastructure) that are currently located in the CDB's periphery will relocate to the Central District. **The connection between the Urban Train stations and the main streets in the town center is essential and should be maximized to develop an adequate choreography among the structures that surround the transportation system and the most heavily used areas nowadays.**
- The scale of this type of intervention is adequate if it is small. Any large-scale changes involve a very high risk for investment, and also inhibit the flexibility that this type of revitalization requires. In this vein, the recommendation to the municipality is to impact one or two streets where there is already some semblance of urban vitality.⁶ This study has identified several sub-sectors of the CDB where it would be recommendable to prioritize efforts:
 - The circuit composed by calle Dr. Veve (West sector), the PR-167 road, and the so-called Hollywood sector—this block is located between the new residential development of Park 228 and the lot of the Metropolitan University in Bayamón, which includes the Dr. Agustin Stahl School. Also the entire line of properties on PR-167 (East side) that are also linked to this area.
 - The calle Manuel Rossi, close to the Bayamón Health Center and the group of public offices in the Town Hall and its surroundings.

- Around the public plaza and the Iglesia Santa Cruz, as well as the surroundings that connect this space with anchor establishments, such as the Cantón Mall and the Urban Train.
 - The calle Dr. Barbosa, where there have already been creative and innovative uses found, typical of “learning cities,” including the coffee roaster, the Casas de los Artistas, and the house-museum of Dr. Barbosa. It will be important to continue developing this corridor as a place of interest and cultural icon in the CDB.
 - The calle Santa Cruz as an intensive corridor for medical services.
- Turning the District into a modern and vibrant place cannot depend on public interventions; it will require a mainly private effort, which, in turn, should be facilitated by local government institutions. **Assuming that the previous amenities are public concepts undermines the very nature of the market required by an innovation district. In this sense, the public policy measures established by the state should be in line with the incentives to establish and rehabilitate businesses, and to create an entire institutional concept that maximizes the resources of the central government and municipality.**
 - Expand the CDB Revitalization Plan Design Guide to include aspects on the internal characteristics of the commercial business content, and even some aspects of its image, projection, and marketing platform.
 - **Developing a gastronomic “cluster,” in parallel with contemporary entertainment.**

To make these market dynamics viable, it is essential to begin with the development of a gastronomic cluster, in parallel with contemporary entertainment. Microbreweries have been recently established, as well as restaurants with creative and contemporary alternatives, cafés, and restaurants with distinctive offers, such as natural products, chocolates, yogurts, etc.

The incentives should seek to develop the multiple clusters available in the CDB. As an example, adequately joining the transportation cluster with the education cluster is recommended. Likewise the health cluster should be linked with the area's public transportation and gastronomic offers.

As was previously explained, focusing this commercial offer to a group of specific streets, with a small business perspective, is recommended.

PHYSICAL PUBLIC ASSETS

By physical public assets, the literature refers to “those spaces that are accessible to the public, such as parks, plazas, and streets that turn into active and dynamic establishments.” According to Katz and Wagner, public spaces in innovation districts are created or reconfigured to turn them into digitally accessible spaces, equipped with high-speed internet and wireless networks, computers, and digital displays in spaces that promote networking and encounters among people. This also includes the concept of the streets as laboratories where new innovations are tested, such as electric lighting, trash pickup, new digital technologies, and transit management systems.

Current Condition

The CDB is equipped with multiple public-access physical assets and other public properties with limited access. The town center features the recreational plaza; outside the town center—but within the limits of the CDB—is the Central Park (for kids) and the Junghans Park. Close to the CDB limits is the Paseo Lineal del Río Bayamón (Río Bayamón Lineal Park). The public properties with limited access include the José Celso Barbosa Museum and the Francisco Oller Museum of Art History, as well as the Braulio Castillo Theater and the Carmen Delia Dipiní theater-café, among others. The CDB also features the Rubén Rodríguez Coliseum and the Juan Ramón Loubriel Municipal Stadium, as well as some CDB properties that have been rehabilitated and occupied by the special program for resident artists.

Recommendations

Using these assets as part of the strategy to position Bayamón as an innovative city.

- **These assets can become anchor institutions that serve specialized users, but as an aggregate, they can also be part of the CDB experience. That is to say, these assets currently operate in an isolated manner and require particular events to foster their use. The municipality can design a series of innovative interventions to allow those spaces to be opened and put to a different use, therefore stimulating a multi-modal use of these public investments.** The E-4Bit project that is being developed on the premises of the Juan Ramón Loubriel Stadium is an example of this type of intervention. This space will attract hundreds of people from the creative sector with links to the world of communications and entrepreneurship. On the other hand, the project itself has begun to position the CDB as a place of innovation.
- **Another one of these emblematic projects is the rehabilitation of the “Teatro,” where a sort of food court is being currently developed to serve as an anchor for the commercial sector close to the Urban Train station.** This should be integrated with neighboring cultural activities to promote pedestrian traffic in the town center and enhance the visitors' experience.
- Another example is the campaign that the Puerto Rican Museum of Art has been developing for the past 5 years, which turns their facility into a non-traditional congregation space (e.g. “Arte-Jaqueo,” pet day at the Museum, among others). The effectiveness of the municipality's interventions will depend on how users choose to employ the complementary facilities offered by the CDB. That is to say, if a sporting event is happening in the city, the CDB should increase its offer of alternatives before and after the event, close to the venue where the event will take place.
- The following map, which was developed by the Municipality, highlights the CDB's limits and sectors. The assets within this space can be optimized if the offer of activities and uses reaches out to include populations and socioeconomic groups outside the CDB. That is to say, more than the development of new facilities or infrastructure, the Municipality should maximize the use of public assets to expand and diversify the visitors to the CDB.
- One of the objectives is to strengthen the CDB's markets through the diversification of its visitors, thus diversifying the mix of services and products developed in the CDB. Since this new offer responds to the preference of population groups in their productive stage, it is

necessary to attract new consumers (users) to the CDB, preferably population groups in their productive age, like those who belong to the *Generation (Y)* or *Millennials*. These groups are fundamental to promote an environment of innovation. The offer of products and services should capitalize on interaction hubs, meaning that attracting new users will undoubtedly have an amplified effect on the spaces that already have some urban vitality. It also allows the municipality to maximize investment in spaces that already serve a group of the CDB community.

- On the other hand, the use of public spaces should be maximized so that they serve as a complement, as congregation and recreational spaces for surrounding private activities. The spaces of the recreational plaza in the town center and the public infrastructure close to the Urban Train are ideal assets for this type of strategy. These spaces should preferably have free Wi-Fi and be spaces where new technologies are adopted, particularly in terms of lighting, renewable energy, waste management and pick up, transportation, and cleanliness, as well as any other use related to the use and management of the space.



Source: Taken from the Revitalization Plan for the Central District of Bayamón, 2009.

PRIVATE PHYSICAL ASSETS

These assets comprise the buildings and spaces that stimulate innovation in a new and creative way. Examples of these assets include office buildings designed to promote “*shared work*,” laboratory spaces, and small and affordable spaces for start-up companies. These also include micro-housing, developed in areas that have access to shared spaces, entertainment spaces, and eating areas.

The micro-apartments are already a trend in places like Santurce, where they have been successful. But these are not designed to integrate common areas and spaces that foster collaborative work, since they were not developed as instruments to promote innovation. An economic development policy that promotes innovation and entrepreneurship needs to incorporate a housing element to meet the needs of those who spend a large proportion of their income and resources on the development and commercialization of their ideas.

Current Condition

The CDB has multiple private assets that serve different users of the municipality. Nevertheless, these assets either do not foster an innovative environment, or they only serve very limited population groups. The town center and its surrounding streets maintain a rental and usage offer that is typical of these areas, limited to traditional products and services. This limited offer automatically excludes multiple population groups who find themselves in their productive age and could be the principal boosters in the innovation and re-development of the District. Likewise, the CDB houses offices for state or institutional services in key places of the town center. These private assets limit the potential users of the CDB and the public that will sustain the retail activity in the area.

The growth opportunities for the CDB depend on the optimal use of these assets. It is important to consider the design elements of strategic structures that are meant to be anchor spaces for innovative economic activity; they must be designed to serve a group of users that does not currently participate in the District's activity.

Likewise, there is an extensive group of properties in the CDB that currently appear as vacant. These units represent an opportunity for growth, inasmuch as they allow the insertion of new business types without having to necessarily displace the current group of merchants. These vacant properties are a reflection of the generational transition inside the CDB.

Recommendations

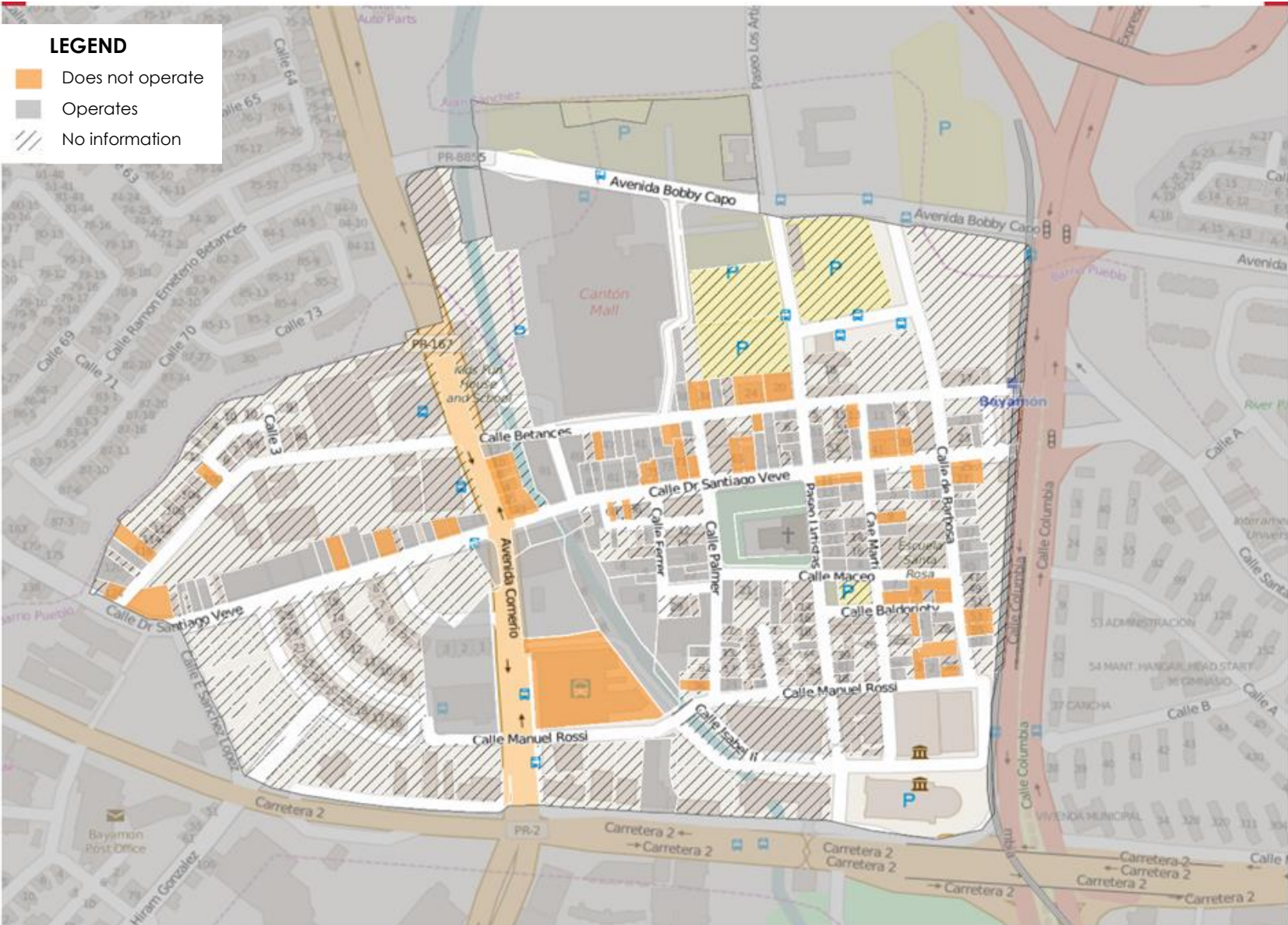
Transform the town center's vacant establishments to provide an offer for mixed uses and places for social gatherings.

- Right now, there is a substantial amount of vacant establishments in the town center. Occupying these vacant spaces, including a mixed-use offer, will promote the connections between the District's different areas.
- The use of public spaces for social gatherings will require further re-development, resulting in ordering, conditioning, and identifying pedestrian routes throughout the CDB.

Develop an incentive program to strengthen the mix of desired activities and types of businesses in strategic spaces.

Efforts to modify the offer of products and services are usually led by the private sector. Nevertheless, the local government can provide particular incentives to guide “tenanting” in specific sectors. In the case of Bayamón, the first step should be to promote the development of new types of businesses in the areas of gastronomy and entertainment, as part of a development public policy focused on innovation. At the same time, there should be a process to promote the development of rental housing for young professionals and entrepreneurs, such as micro-apartments, as well as room and boarding for students.

COMMERCIAL LOCALITIES IN THE TOWN CENTER



NEIGHBORHOOD BUILDING AMMENITIES

Neighborhood building ammenities usually describe a group of physical provisions that enable an ideal connection between the different areas of an innovation district. At the same time, they promote places with multiple uses within said district. These links replicate a social fiber and do away with barriers that limit business relationships, social exchange, recreation, and leisure time in the CDB.

These assets are the backbone of the urban environment that distinguishes the CDB, especially its ability to connect a varied group of citizens who, despite having multiple diverse interests, choose the CDB as the space to share ideas. On this issue, the characteristics of a pedestrian city stand out, offering a safe, pleasant, and vibrant environment that organically brings together the different groups of assets and creates gathering points in anchor spaces.

The tools for this type of activity include specific delimitations for cyclists, pedestrian paths, good sidewalks, and open spaces, among others.

Inducing connectivity between the various assets is imperative in order to profit from the use of the space and expand the District's user footprint. For example, the town center tends to be partially isolated from areas and institutions dedicated to healthcare services, which is why its integration would encourage bringing in users that require new services and products. Establishing these connections, in turn, creates new spaces that were probably underutilized. Proximity and density are necessary qualities for this type of spatial integration.

Current Condition

Urban landscaping initiatives have introduced the refurbishment of streets, pedestrian walkways, and gardens. Moreover, the CDB has a trolley service that moves through most of the sector. It also has two Urban Train stops and multiple AMA (government bus service) and public car terminals. At the same time, there is currently a Cycling Plan for the municipality, aimed at "fostering cultural and socioeconomic activity among the communities through the education, promotion, and integration of bicycles in the everyday life of citizens and visitors."



Transportation Services

- Urban Train stations Bayamón Centro and Santa Rosa
- Three public car terminals: Kuilan, Guardarrama, Terminal Intermodal (next to the AMA terminal)

Recommendations

Establish effective strategies to relieve traffic congestion and meet the pedestrians' needs—specifically, connecting the town center to surrounding areas.

- It is necessary to prioritize different means of transportation in Bayamón, especially for pedestrians. This will allow better asset integration and improve the district's potential offer. It is essential to establish effective strategies to relieve traffic congestion and meet the pedestrians' needs. Many parts of the district are disconnected from the

Urban Train station. Even more so, the connection between the town center and its surrounding areas is poor, given the complexity of the intersection of roads PR-5 and PR-2. Besides, there is no pedestrian/cyclist connection to the Linear Walkway.

The municipal initiatives for physical improvements to pedestrian walkways and signage, as well as the availability of different modes of transportation, must be combined with high-speed internet connections and smart tools that promote their use and encourage the District's integration.

Developing pedestrian spaces as a strategy to connect the city's physical assets.

- Enhance the relationship between the different assets through the design of transitional spaces between facilities. Remove fences, walls, and any other barrier limiting a physical connection between public assets.

NETWORKING ASSETS

Networking assets consist of infrastructure that permits the continuous interchange of ideas, and social interactions focused on productive ventures. Assets can include public spaces like parks and plazas, meeting spaces, co-working spaces, and cafes, among others.

However, these assets depended greatly on the community created around the services provided by the District. In other words, networking assets depend on the vitality that public and private interventions manage to reproduce in the CDB. Innovation districts have traditionally used startup or entrepreneur communities. These communities require assembly or meeting spaces, collaborative workspaces, cafés, and an ecosystem that brings entrepreneurs together. Poles of innovation in the metropolitan area include the private project Piloto 151, the quasi-public project Parallel 18, and E-4Bit in Bayamón. All of these represent initiatives that agree with bringing together multiple entrepreneurs under a collaborative structure. The Bayamón model has certain advantages associated with its direct access to the Urban Train and its walking distance to a vast range of business and physical assets.

Current Condition

The CDB has a series of educational and health institutions that enable an organic exchange, albeit limited to its context. That is to say, the universities interact in their own setting and with their own members. In the same way, hospitals do so in their setting and with their users. In that sense, it is imperative to establish a larger cross-sectional interaction between the different assets already established in the CDB. The fact that Bayamón has a linear walkway that attracts a series of users during non-traditional hours also adds value to this context. Nonetheless, this recreational area requires a better connection to the Central District.

Recommendations

Encourage and steer the union of multiple parties under the concept of a vibrant and contemporary CDB. Unite different interest groups, such as universities, institutes, medical facilities, small businesses, owners of physical assets, commercial associations, local NGOs, and the neighboring community.

- This social structure is formed by the relationships between the main parties who have the potential to create, improve, or expedite the development of ideas. The municipal leadership will have to adopt a public policy to promote and encourage connections between sectors, taking advantage of the physical provisions, communications, and network of collaborative spaces that enrich the city life based on the CDB's physical and spatial resources. Municipal initiatives could constitute a connecting thread between sectors that generate economic activity in a vibrant and contemporary CDB. At this starting point, the educational institutions could be an ally by using their academic courses and different areas of specialization to assist in the creation of the CDB's community of entrepreneurs.

Foster social and commercial exchange, promoting collaborative workspaces (co-work) that serve as anchor spaces for the creative class the District wishes to attract.

- These flexible workspaces lend themselves to multiple uses, including incubators for service provider businesses, affordable office spaces, gathering places, and geographical locations to enable the development of a community of innovators and entrepreneurs.
- The ideal target markets for these initiatives are groups of 25 – 45-year-old workers who, due to their own generational context, are more likely to work in these flexible workspaces. They seek modern gathering places and require more open spaces in an urban setting. These groups are searching for opportunities in modern-day Puerto Rico, they are educated, and have great initiatives. Notwithstanding, they lack the economic resources that were available to past generations. These age groups also have the advantage of a potential support network at local, regional and international levels, based on accessible interrelationships through the internet. They do not necessarily respond to traditional formalities, but they have a great capacity for learning and quick transformation. This allows them to respond to changing markets and atypical business opportunities. Social exchange in the workplace is not only conducive to innovation for this generational group; it is a desirable amenity.

DISTRICT BRANDING

One of the main characteristics of innovation districts is their clear geographical and social delimitations. We are referring to a substantial understanding, in physical and conceptual terms, of what comprises the District. This understanding is colloquially reproduced in the language of the municipality's residents. A large part of international experiences review geographical areas that have been delimited by existing patterns of use, or by the desired experience as part of the district's new design. That is to say, the concept itself of an innovation district requires a spatial vision consistent with the social, economic, and cultural interactions that take place in the district.

These delimitations will depend on the area's urban climate. For example, a district in a traditional urban zone requires a design and scale that differ very much from a district in a suburban industrial zone. The physical delimitation developed for the district will not depend solely on an established definition of said district; it requires a language reproduced on a local level. This language should be a part of the social fiber that would potentially use the space. **Developing a district brand is a tool that helps reproduce the language regarding physical delimitation. It also**

helps communicate a strategy and vision, and encourages the growth of a community aligned with those values.

For the last decade, cities have become relevant on national and international levels. Economic decentralization has allowed local governments to take a more relevant role for its citizens and in terms of the international community⁷. The flexibility and agility with which local governments operate allow them to create poles of experimentation and innovation. The elevated added value focused on urban areas gives way for government spaces to become great testing facilities for new enterprises.

Current Condition

The municipality of Bayamón has a specific delimitation for the central district⁸ (see Revitalization Plan). However, there are few fixed points delimiting the space. Since the CDB has a relatively large area, pinpointing an individual's location in regards to his or her environment becomes more difficult. Factors like the ability to walk safely and enjoyably have an influence on the perception of the CDB.

The CDB's delimitation has had relatively low publicity, compared to the publicity received by different points of interest in the municipality. The CDB is not perceived as an integral part of the definition a venue would offer about its space. Efforts to popularize the CDB have been modest, and have focused on planning issues and regulatory use of the space. The use of CDB infrastructure depends on the activities coordinated by the local government and occasional events. The CDB's delimitation, at least its most centric component, should be established through current patterns of use. This refers to places of economic activity, recreational areas, and pedestrian and vehicular flow, among others.

Recommendations

Bayamón could develop an inclusive brand concept featuring input from local groups, introducing the city as a place where change happens and new users are welcome to develop their enterprises.

- This type of city-brand helps extricate these efforts from the bureaucratic image (government-managed spaces) traditionally associated with municipalities. The brand should be a reflection of the transformative vision towards which the CDB is headed.
- An alternative worth considering could be the internal framework of an organization structured as a municipal development corporation, as described in the Autonomous Municipalities Act. Nonetheless, this legal concept is subject to the project's institutionalism within the municipality's organizational structure.
- The development of the city-brand should coincide with the development of a smaller-scale delimitation of the CDB. It should also focus mainly on the town center and some *peripheral* streets. This would allow an adequate approach to a pedestrian appreciation of the city and its amenities.

The delimitation could be physically reinforced by pedestrian walkways and landmark points, combined with nearby anchor institutions or artistic expressions close to points of interest.

- This type of approach achieves two objectives at once. Firstly, it circumscribes the district's central space to a physical appreciation. Secondly, it reinforces the use of the space by the users.

SWOT ANALYSIS: CENTRAL DISTRICT OF BAYAMON

“The aim is to build a CDB that contains offers relevant to demographic changes, social circumstances, and the preferences of productive people, such as those of Generation (Y). At the same time, the character of the CDB should harmonize with the needs of its current user community”

A SWOT analysis was conducted to determine the Strengths, Weaknesses, Opportunities, and Threats related to the Central District. Below is a summary of the results of the analysis.

Strengths: (internal environment)

- | Good vehicular access, collective transportation and other urban transportation alternatives
- | Walkable urban areas
- | Public infrastructure, sidewalks, lighting, plazas,, open spaces, and recreational areas
- | Parking
- | Commercial activities
- | Educational centers with diverse offerings for all levels
- | Diurnal flow of users and visitors
- | Ability to integrate business, housing and recreation
- | Historical value of traditional urban center
- | Public services and security
- | Vacant spaces to promote business expansion and residential uses
- | Suitable scale for creative and emerging businesses
- | Ideal proximity to communities in neighboring towns
- | Contemporary housing and infrastructure projects
- | Strong industrial sectors in the BCD and its periphery, mainly the healthcare industry, education, retail trade, and wholesale.

Weaknesses: (internal environment)

- | Offers limited products and services in the Traditional Urban Center
- | Limited entertainment and gastronomic offer that only meets immediate needs
- | Business are not in line with contemporary demand for products and services
- | Low density of institutions and innovative companies
- | Concentration of institutional services in primary places
- | Limited working hours of food shops and retail
- | Traffic congestion and little parking availability on the street to meet the needs of service businesses
- | High number of vacant spaces
- | Inadequate store fronts
- | Poor physical condition of some properties in primary places
- | Reduced number of workers of the creative class
- | Incomplete signage delineating the entrances to the DCB, limiting effective guidance for the visitor
- | Limited delineation of the DCB (DCB is not recognized as a distinctive space to the rest of the urban area of Bayamon)
- | There is no particular brand for the District

- | Events within the urban center mostly cater to an older population group, and less to a population dedicated to the creative industry.
- | The space is perceived as one that is difficult or unfriendly for pedestrians
- | Limited government fiscal resources

Opportunities (external environment)

- | Bayamon is one of the main economic poles of the metropolitan area, which provides a basis for redeveloping business in key sectors, such as the traditional urban center and certain corridors of CDB
- | Increase supply of products and services to visitors who can access the CDB by public transportation
- | Development spaces near areas of public transportation; i.e. perimeters of the "Tren Urbano" stations.
- | Development of space contiguous to or affected by high rates of vacancies, which enables the implementation of strategies to repopulate or expand the commercial offer and its quality
- | Adapt the commercial offerings to promote businesses with high added value (highly specialized niches)
- | Adapt the commercial offering to foment creative services
- | Capitalize on historical and cultural value
- | Attend and generate a high demand for entertainment and dining business in Bayamon
- | Attend the generational changes in consumer preferences; The Y Generation demands, urban spaces that are walkable, pleasant and productive
- | CDB users are in favor of a plan to revitalize the District
- | Expand the reach of municipal management to facilitate the business environment
- | Develop events within the traditional urban center for non- typical users of CDB
- | Few municipalities have positioned themselves as centers of the creative class or districts of innovation.
- | Several streets within the CDB have certain vitality upon which they can implement a revitalization strategy.
- | Municipal interest in re-development
- | Higher confidence in the permitting process in the context of the local jurisdiction and the faculties delegated to Bayamon, given its municipal autonomy; this contrasts with the negative perception of the permitting process for Puerto Rico in general

Threats (external environment)

- | High competition for consumer goods in the periphery of the CDB
- | High competition of commercial spaces with increased vehicular traffic on the periphery of the CDB
- | Poor positioning of the sector as a place of commercial development
- | Developments of new commercial poles in the surrounding areas of the DCB
- | Municipal incentives for U.S. national chains located outside the DCB
- | Development of Innovation Districts in other communities in the metropolitan area
- | Low confidence in the permitting process at a general level in Puerto Rico

- | Economic uncertainty in general; economic environment of the country
- | Movement of investment capital to other areas of the municipality
- | Depreciation of CDB infrastructure
- | Increased number of vacant properties
- | A commercial community resistant to modifying its business offer or to invest in their businesses
- | Lack of cohesion between property owners and uses proposed for the area
- | Pressure for the development of road infrastructure in the periphery of the CDB
- | Other alternatives to the proposed approach of revitalization

FINDINGS: INVENTORY OF CDB PROPERTIES

As part of the inventory for the CDB, we tallied 737 venues, out of which 42% were found on the streets Esteban Padilla (89), Bobby Capó Avenue (88), Santa Cruz (73), and PR-839 (61).

Street where the establishments accounted for are located:

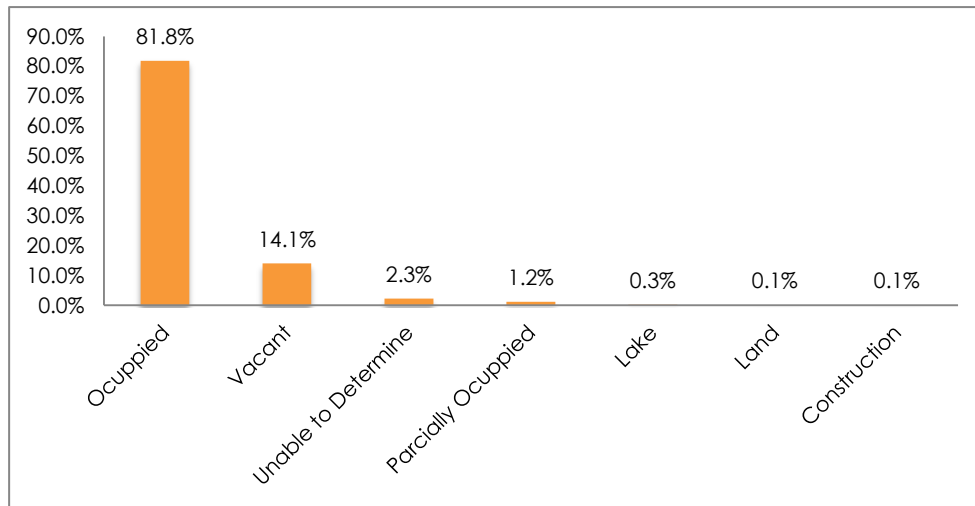
	Frec.	%
Esteban Padilla	89	12.10%
Bobby Capó Avenue	88	11.90%
Santa Cruz	73	9.90%
839	61	8.30%
855	39	5.30%
Betances	35	4.70%
Comerio	34	4.60%
Street 3	32	4.30%
Street 7	29	3.90%
Margin of Street 2	26	3.50%
Isabel	20	2.70%
Ongay	18	2.40%
Street 4	17	2.30%
Manuel Rossi	16	2.20%
Palmer	16	2.20%
Degetau	15	2.00%
Marina	14	1.90%
Dr. Ferrer	13	1.80%
PR 2	12	1.60%
167	11	1.50%
Barbosa	11	1.50%
Street 2	9	1.20%
Street 5	9	1.20%
Marginal	9	1.20%
Street 1	8	1.10%
Maceo	7	0.90%
Martí	6	0.80%
855 and 167	4	0.50%
Dr. Veve	4	0.50%
Aluntio	3	0.40%
890	2	0.30%
Cesar Diaz	2	0.30%
Baldorioty de Castro	1	0.10%
Street 6	1	0.10%
Evaristo and Bobby Capó	1	0.10%
Not Determined	1	0.10%
Artists walkway	1	0.10%
Total	737	100%

Note: The numeric basis for this table is the 737 spaces counted.

Individual businesses (spaces) were counted for Canton Mall and other commercial centers

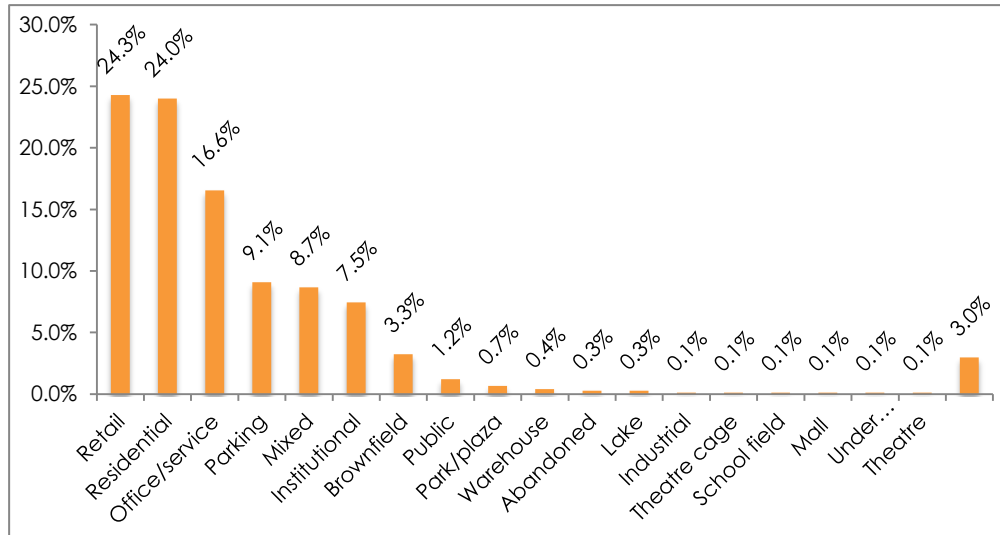
Eight out of every ten (81.8%) tallied venues are occupied, while one out of every ten (14.1%) is vacant. Two in every ten (24.3%) tallied venues are used for retail business. A similar amount (24%) is used for residential purposes, and 16.6% are used for service provider offices. Meanwhile, 9.1% are used as parking lots, and 8.7% have mixed uses.

Venue Occupancy



Note: This chart's number base is the 737 tallied venues.

Assigned Use for Tallied Venues



Note: This chart's number base is the 737 tallied venues.

Out of the venues for mixed uses, 80% had residential/commercial uses. The remaining 20% were for residential/office uses.

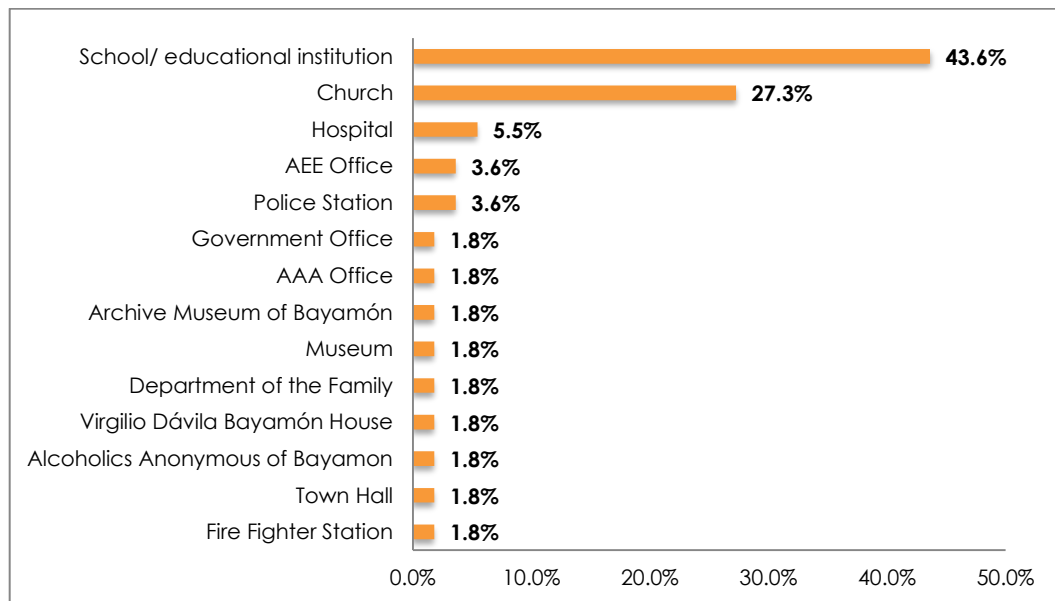
Types of Mixed-Use Venue



Note: This chart's number base is the 64 tallied mixed-use venues.

Out of the venues with institutional purposes, 43.6% are occupied by schools and educational institutions; 27% are used by churches; and 5.5% are used by hospitals.

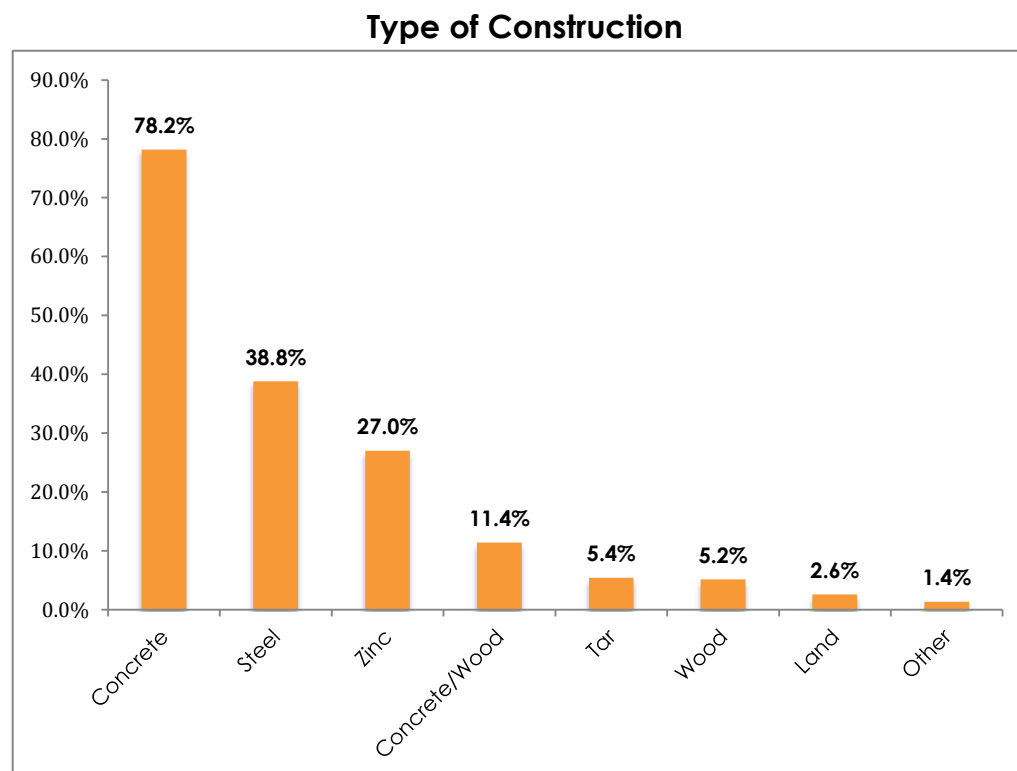
Type of Institutional Venues



Note: This chart's number base is the 55 tallied venues with institutional purposes.

Among the venues used for retail business, 23% are used as restaurants or cafeterias, 9% are used to sell clothes and footwear, while 5% are used to sell mobile phones and accessories. From the service provider offices, 33% are linked to the healthcare sector, and 20% are associated with legal services.

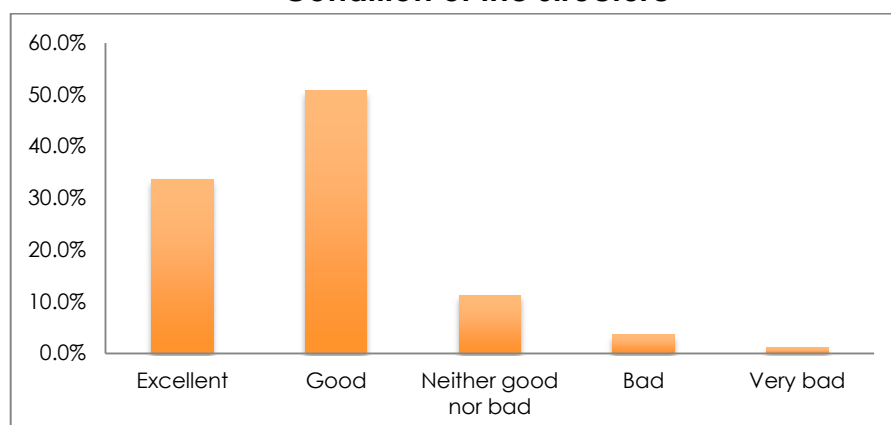
Approximately eight out of every ten (78.2%) tallied venues has a concrete structure, and nearly four out of every ten (38.8%) has a steel structure. Two out of every ten (27%) have zinc structures, while one out of every ten (11.4%) have structures made of concrete and wood.



Note: This chart's number base is the 737 tallied venues. The sum of percentages could be different from 100%, since this is a multiple-choice question, and the responses are tallied independently for each answer provided.

In terms of structure conditions, eight out of every ten venues were in good (50.7%) or excellent (33.5%) conditions. Less than one out of every ten was in bad (3.5%) or terrible (1.1%) conditions.

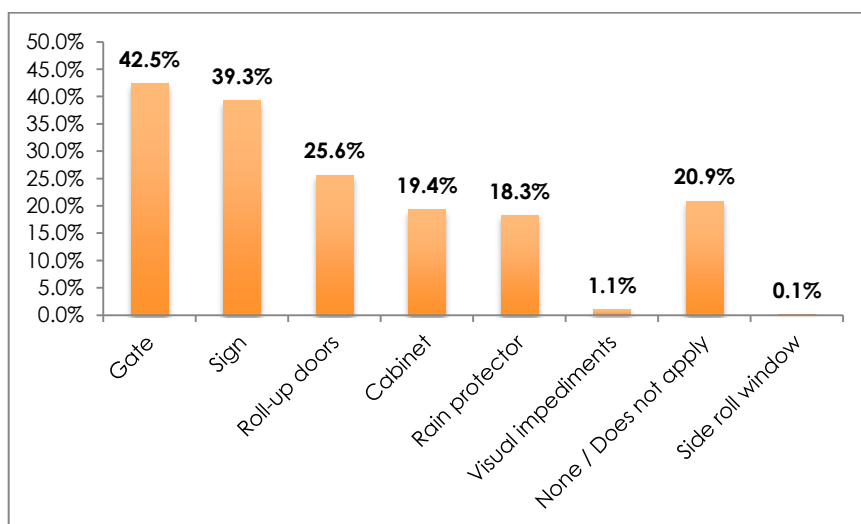
Condition of the structure



Note: This chart's number base is the 737 tallied venues.

Four out of every ten (42.5%) venues have fences as part of their façade. A similar amount (39.3%) have signs, while two out of every ten (25.6%) have roll-up doors.

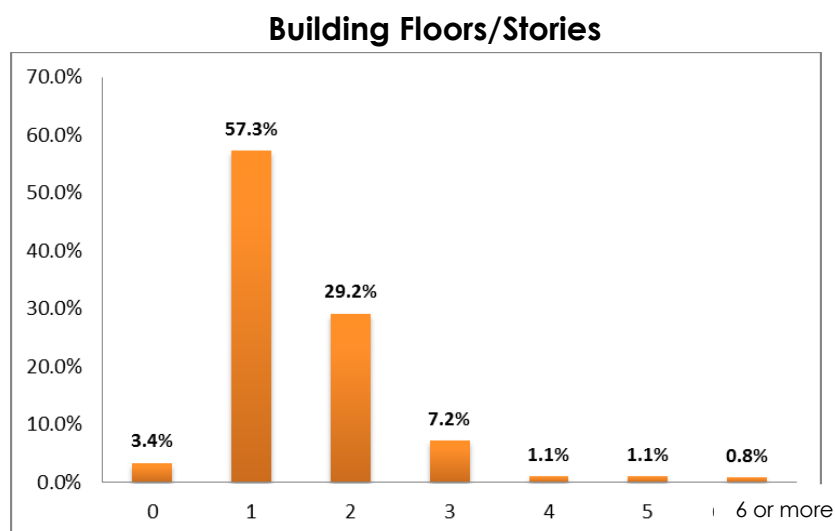
Elements of the facade



Note: This chart's number base is the 737 tallied venues. The sum of percentages could be different from 100%, since this is a multiple-choice question, and the responses are tallied independently for each answer provided.

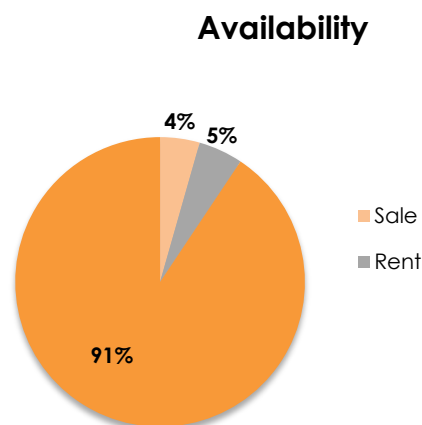
As for the fences that make up part of the façade, eight out of every ten are in good (30%) or excellent (57.2%) conditions. Approximately nine out of ten signs are in good (38.4%) or excellent (51.1%) conditions. Nine out of ten roll-up doors are in good (44.4%) or excellent (48.1%) conditions.

The tallied venues have an average of two (2) building floors, with a median of one (1) floor. Five out of every ten (57.3%) tallied venues have structures of one (1) floor. Nearly three out of ten (29.2%) have structures with two (2) floors, while one out of every ten has a structure with three or more floors.



Note: This chart's number base is the 737 tallied venues.

Less than one out of every ten venues stated it was available for sale (4.5%) or rent (5%.)



Note: This chart's number base is the 737 tallied venues. The sum of percentages could be different from 100%, since this is a multiple-choice question, and the responses are tallied independently for each answer provided.

Additional Components

The sidewalks near the tallied venues are mostly in good conditions (75.1%); they were in bad conditions in 7.1% of the venues; while they were non-existent in 17.8% of the tallied venues. More than half (57.5%) of the tallied venues do not have ramps or sidewalk access for people with special needs. Moreover, sidewalk obstructions were identified at only one out of every ten (10.2%) tallied venues.

As for lighting, nearly eight out of every ten (78.3%) tallied venues have adequate lighting, while six out of ten (67%) have streetlights. Furthermore, seven out of every ten (71.3%) tallied venues do not have street signage, and six out of ten (62.9%) do not have traffic signs.

Approximately, six out of every ten (58.7%) tallied venues have parking spaces in front. Similarly, six out of ten (63.2%) have private parking lots.

Parking in front of the locality			Private Parking		
	Frec.	%		Frec.	%
Yes	432	58.7%	Yes	465	63%
No	304	41.3%	No	271	37%
Total	736	100%	Total	736	100%

Note: This table's number base is the 737 tallied venues.

FINDINGS: SURVEY OF CDB BUSINESSES

For the purpose of this study, **148 interviews were carried out at business establishments located in the CDB.** The respondents include 17 (12%) building owners, 49 (33%) tenants, and 82 (55%) employees. Furthermore, 33 (22%) respondents stated they were the business owners. Seven out of every ten (70.6%) building owners also owned the land.

Out of all building owners interviewed, **41% said the structure was built in or before 1960;** 17.6% said the structure was built between 1964 and 1975; 11.8% said the structure was built between 2008 and 2011; and 29.4% could not recall or didn't state the year when the structure was built. Also, 11.8% of building owners stated that the structure has a value of \$100,000 or less; 23.5% stated that the structure's value is between \$200,000 and \$250,000; 5.9% stated the structure is valued at \$1,000,000; while 58.9% do not know or did not disclose the value of the structure.

One out of every ten (17.6%) building owners said they had substantially remodeled the property in the last 5 years; while five out of every ten (52.9%) said they had substantially remodeled the property more than 5 years ago. Only one out of every ten (17.6%) building owners who responded is contemplating making future investments in the property.

Among the tenants interviewed, **43% pay less than \$500 a month in rent;** 16.3% pay between \$500 and \$1,000 a month; 6% pay more than \$1,000, but less than \$5,000; 6% pay between \$5,000 and \$8,000 a month; while 28.6% do not know or didn't disclose the

monthly amount they pay for rent. Three out of every ten (30.3%) business owners who responded stated that they had substantially remodeled their business in the last 5 years; two out of every ten (24.2%) said they had substantially remodeled their business more than 5 years ago; while four out of every ten (42.4%) said they hadn't remodeled their business at all. Nearly four out of every ten (39.4%) business owners who responded are considering making future investments in their business. Out of these, 46.2% are considering investing in their structure; 53.8% are considering remodeling the business; and 30.8% are considering acquiring new inventory.

The average amount of years these businesses have been operating in their current building is 12 years, while the median is 7 years.

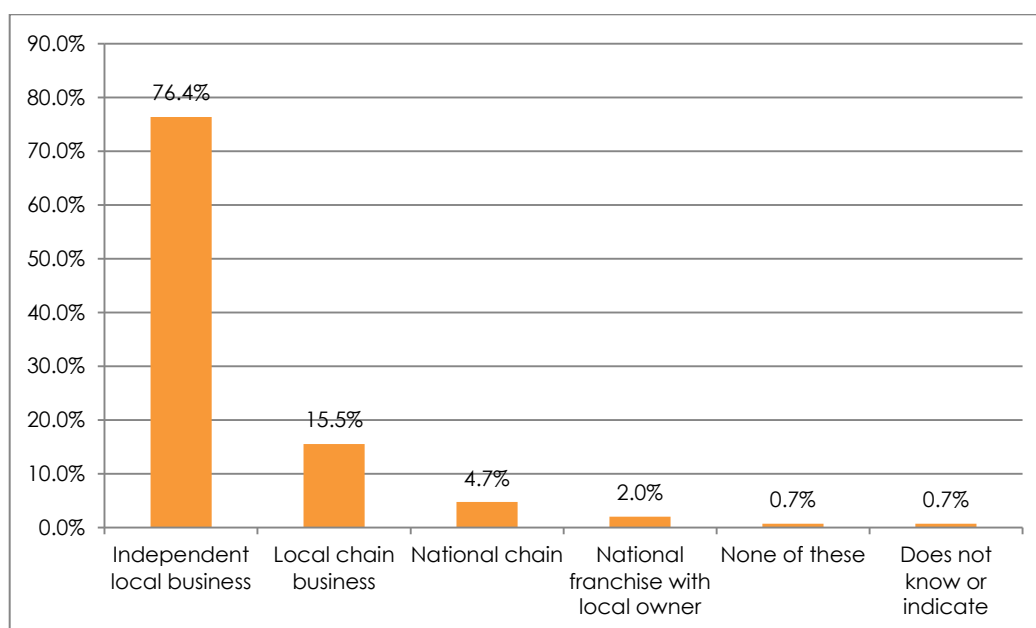
Table 1: Years the business has been operating in its current structure:

Average	12
Median	7
Minimum	Less than 1 year
Maximum	68

Note: This table's number base is the 124 surveyed businesses that responded to this question

Seven out of every ten (76.4%) surveyed establishments are classified as independent businesses, 15% are classified as local chains, 4.7% are classified as national chains, and 2% are classified as national chains with local owners.

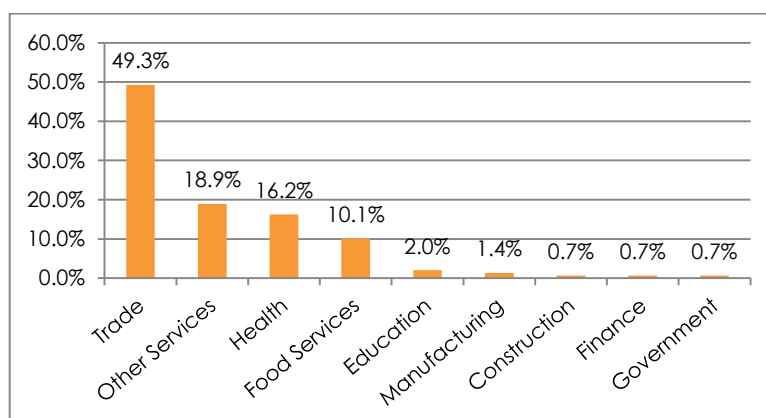
Business Classification



Note: This chart's number base is the 148 surveyed business establishments.

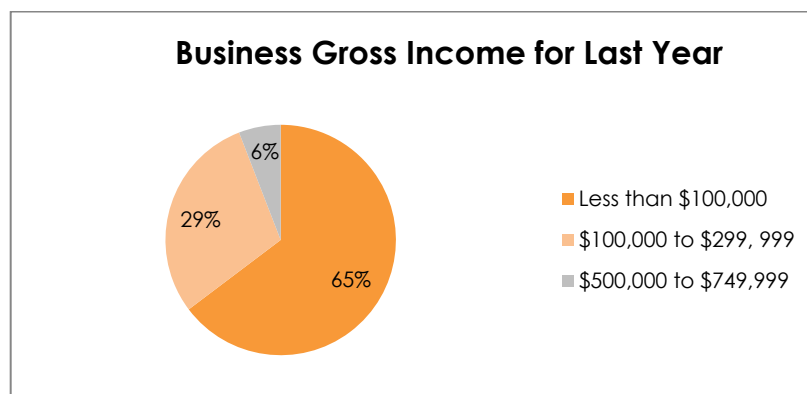
The core business of almost half (49.3%) of the surveyed establishments is commerce; one out of every ten (16.2%) identify healthcare services as the establishment's core business; likewise, one out of every ten (10.1%) identify food services as the establishment's core business; and approximately two out of every ten (18.9%) surveyed establishments identify other services as their core business.

Core Business Sectors for Establishments



Note: This chart's number base is the 148 surveyed business establishments.

Among the business owners who responded to this question, six out of every ten (65%) stated that their business gross income last year was less than \$100,000. **Three out of every ten (29%) said their business gross income last year was between \$100,000 and \$299,999; while less than one out of every ten (6%) said last year's gross income was between \$500,000 and \$749,999.** Approximately half (48.5%) of the interviewed business owners don't know or could not recall their business gross income for last year.



Note: This chart's number base is the 33 interviewed business owners who responded to this question. Out of the interviewed business owners, 16 don't know or cannot recall their business gross income for last year.

Three out of every ten (35.1%) surveyed establishments operate from Monday to Sunday; likewise, three out of every ten (33.1%) operate from Monday to Saturday; while two out of every ten (25.7%) operate from Monday to Friday.

Days of Operation

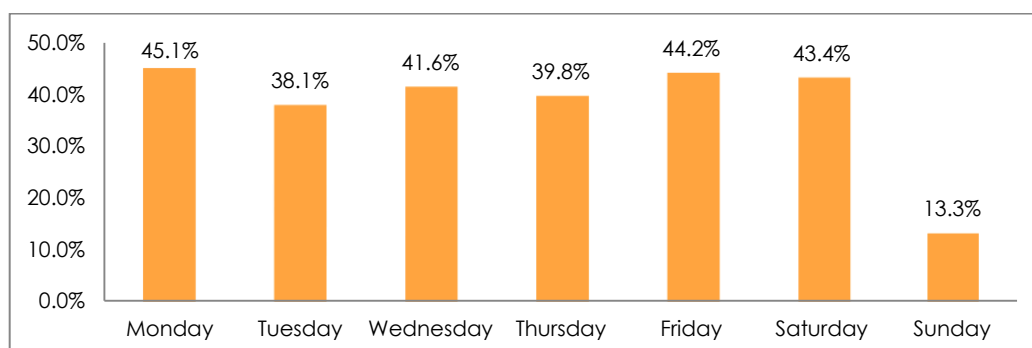
	Frec.	%
Monday to Sunday	52	35.1%
Monday to Saturday	49	33.1%
Monday to Friday	38	25.7%
Monday to Thursday, and Saturday	1	0.7%
Tuesday to Sunday	1	0.7%
Monday to Thursday	1	0.7%
Tuesday to Saturday	1	0.7%
Wednesday to Sunday	1	0.7%
Thursday to Saturday	1	0.7%
Monday, Tuesday, and Wednesday	1	0.7%
Not indicated	2	1.4%
Total	148	100%

Note: The numeric base for this table is the 148 businesses surveyed.

From Monday to Friday, 14% of the surveyed establishments start working before 7:00 am, while 61% start working before 9:00 am. Additionally, 76% of the surveyed establishments operate after 3:00 pm; **16% of the establishments operate after 6:00 pm**; while only 3% operate after 9:00 pm. On Saturdays, 10% of the surveyed establishments operate after 6:00 pm; while 4% operate after 9:00 pm. Approximately three out of every ten (28%) surveyed establishments do not operate on Saturdays. On Sundays, 5% of the surveyed establishments operate after 6:00 pm; while 3% operate after 9:00 pm. **Six out of every ten (65%) surveyed establishments do not operate on Sundays.**

According to the respondents, the days of highest customer traffic in the CDB are Mondays (45.1%), Fridays (44.2%) and Saturdays (43.4%). The day of lowest customer traffic is Sunday (13.3%).

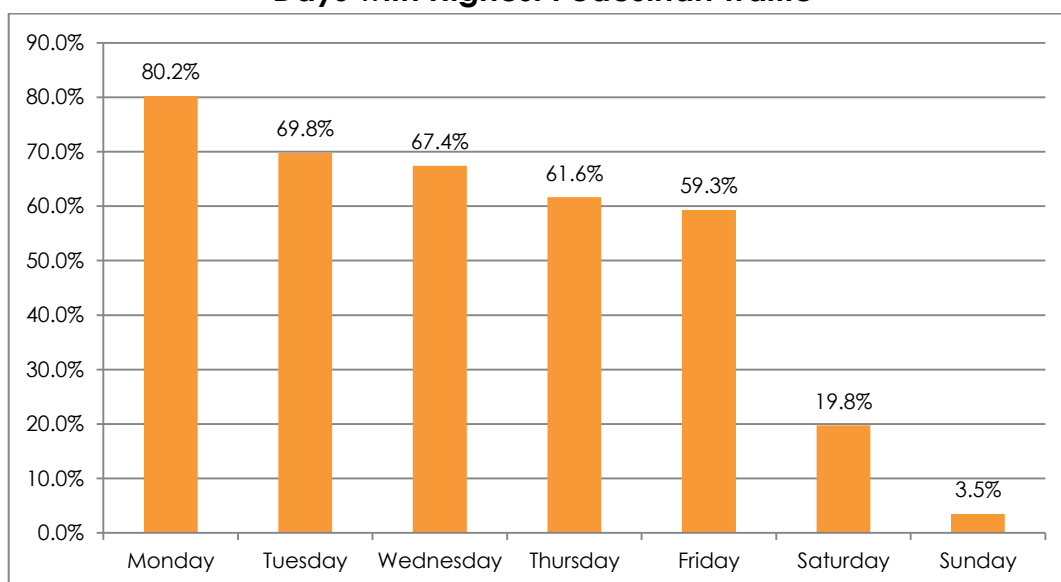
Days of Highest Customer Traffic



Note: This chart's number base is the 113 surveyed businesses that responded to this question. The sum of percentages could be different from 100%, since this is a multiple-choice question, and the responses are tallied independently for each answer provided.

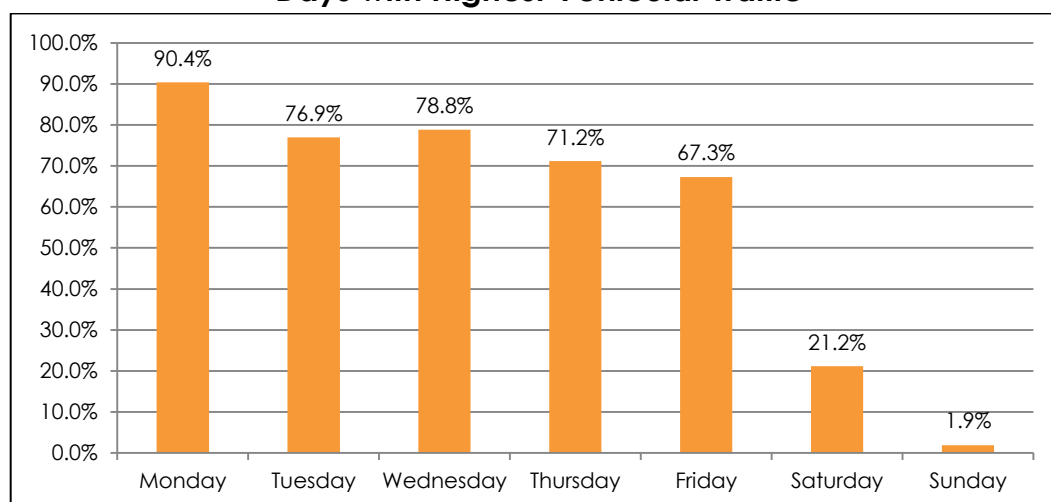
The days of highest pedestrian traffic in front of the CDB's businesses are Mondays (80.2%), Tuesdays (69.8%), and Wednesdays (67.4%). The days of lowest pedestrian traffic are Saturdays (19.8%) and Sundays (3.5%). Meanwhile, the days of highest vehicular traffic in front of the CDB's businesses are Mondays (90.4%), Tuesdays (76.9%), and Wednesdays (78.8%). The days of lowest vehicular traffic are Saturdays (21.2%) and Sundays (1.9%).

Days with Highest Pedestrian Traffic



Note: This chart's number base is the 86 surveyed businesses that responded to this question. The sum of percentages could be different from 100%, since this is a multiple-choice question, and the responses are tallied independently for each answer provided.

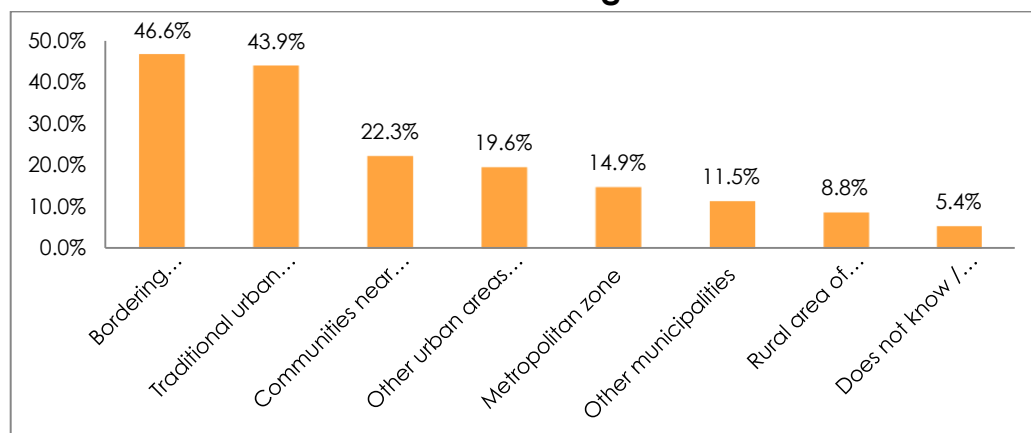
Days with Highest Vehicular Traffic



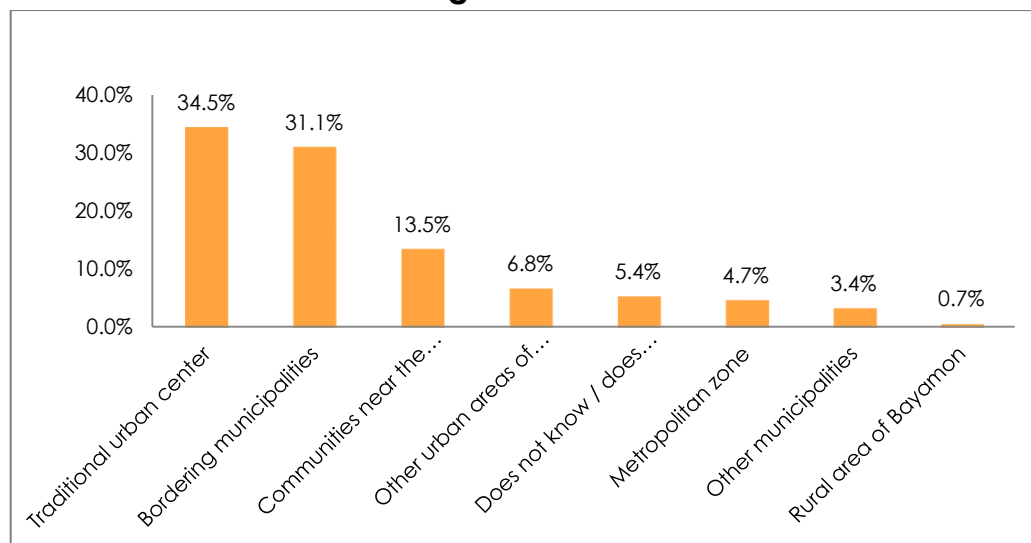
Note: This chart's number base is the 52 surveyed businesses that responded to this question. The sum of percentages could be different from 100%, since this is a multiple-choice question, and the responses are tallied independently for each answer provided.

Four out of every ten (46.6%) respondents stated their clients come from neighboring municipalities; likewise, four out of every ten (43.9%) said their clients come from the town center, and two out of every ten (22.3%) stated that their clients come from communities close to the business. Three out of every ten (31.1%) respondents said that their clients mostly come from neighboring municipalities; likewise, three out of every ten (34.5%) said their clients come from the town center; while one out of every ten (13.5%) said their clients come from communities close to the business.

Clientele Origin



Main Origin of the Clientele



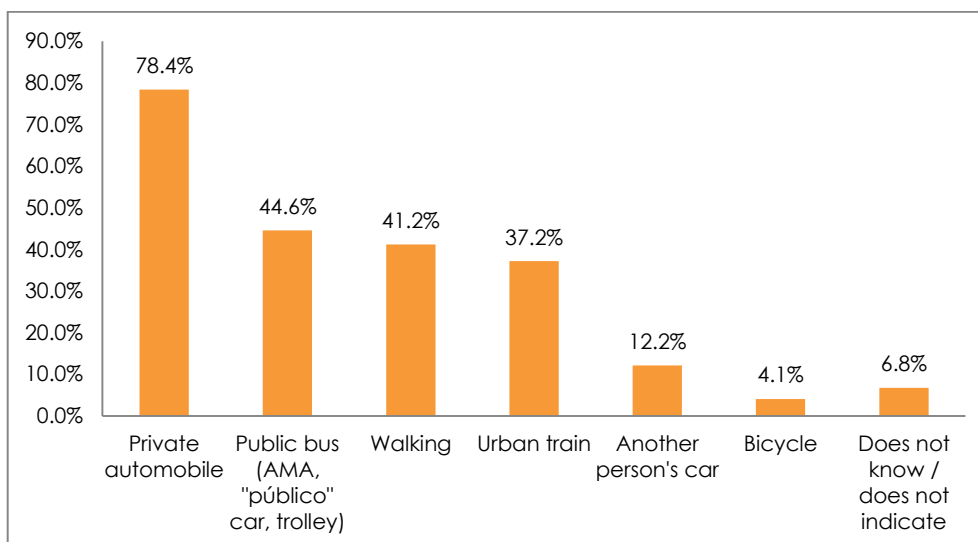
Note: The number base for the tables on clientele origin is the 148 surveyed businesses. The sum of percentages could be different from 100%, since this is a multiple-choice question, and the responses are tallied independently for each answer provided.

Bordering municipalities: (Toa Baja, Toa Alta, Naranjito, Comerío, Aguas Buenas, Guaynabo and Dorado)

Nearly eight out of every ten (78.4%) respondents stated their clients use their own car to access their business establishments; four out of every ten (44.6%) stated their clients use public buses or cars to access their establishments; likewise, **four out of every ten (41.2%)**

stated their clients access their establishments on foot. Only 37.2% of respondents said their clients use the Urban Train to access their business establishments.

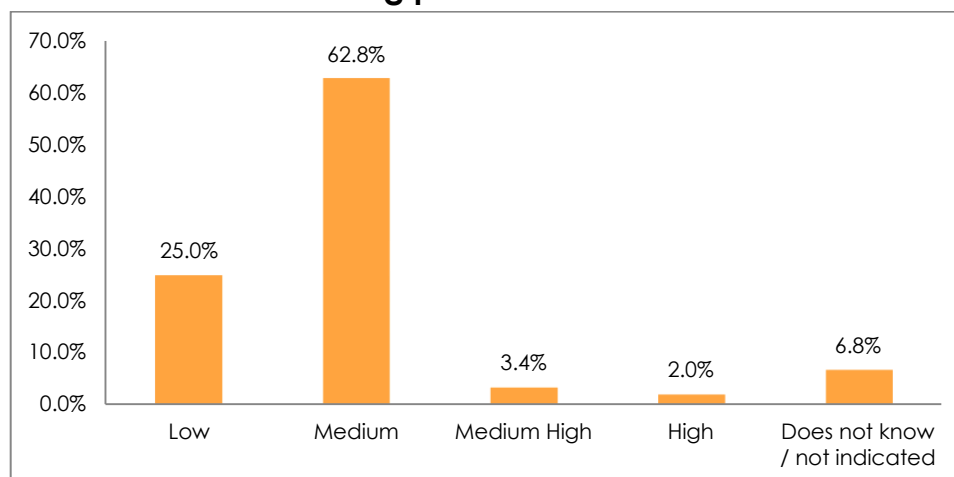
Transportation Methods Most Commonly Used by Clients



Note: This chart's number base is the 148 surveyed businesses. The sum of percentages could be different from 100%, since this is a multiple-choice question, and the responses are tallied independently for each answer provided.

Six out of every ten respondents (62.8%) define their clients' purchasing power as Average; two out of every ten (25%) define it as Low; while less than one out of every ten (5.4%) define it as High or Above average.

Purchasing power of the clientele



Note: This chart's number base is the 148 surveyed businesses.

On average, the surveyed establishments employ 5.7 people, out of which 3.5 work full-time. Meanwhile, **the median of employees in these establishments is 3 employees, out of which 2 work full-time.**

Persons employed per business establishment (including owner).

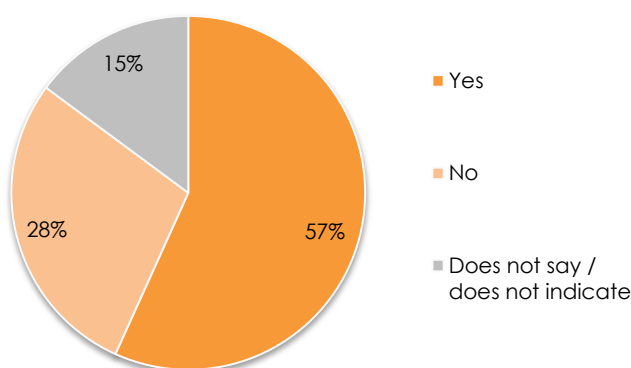
	Average	Median	Minimum	Maximum
Persons employed in this locality	5.7	3	1	70
Full time	3.5	2	0	60
Part time	2.2	1	0	35

Note: The numeric basis for this table is the 143 businesses surveyed that answered this question.

Traditional Urban Center

A little over half the respondents (57%) stated that, if they were to relocate their business or open a new business, they would consider the Town Center for their new location.

Respondents who would consider the Town Center to establish or relocate a business establishment.



Note: The numeric basis for this table is the 148 businesses surveyed.

Seven out of every ten (75.7%) respondents agree or strongly agree that the Town Center is an accessible location. Six out of every ten (63.8%) respondents agree or strongly agree that the Town Center area has proper lighting. Nearly five out of every ten (49.6%) respondents agree or strongly agree that the Town Center is a secure location; two out of every ten (23%) disagree or strongly disagree with this statement; while 27.3% of respondents neither agree nor disagree with this statement. Approximately four out of every ten (38.4%) respondent agree or strongly agree that parking availability in the Town Center is adequate; while five out of every ten (50%) disagree or strongly disagree with this statement. Six out of every ten (63.6%) respondents agree or strongly agree that customer traffic in the Town Center is adequate; while two out of every ten (22.1%) disagree or strongly disagree with this statement.

Assertions regarding the Traditional Urban Center

	Strongly Agrees		Agrees		Neither Agrees Nor Disagrees		Disagrees		Strongly Disagrees		Total	
	Frec.	%	Frec.	%	Frec.	%	Frec.	%	Frec.	%	Frec.	%
The Traditional Urban Center is an accessible place	33	22.9%	76	52.8%	11	7.6%	17	11.8%	7	4.9%	144	100.0%
The Traditional Urban Center is a well-lit place	17	13.4%	64	50.4%	17	13.4%	17	13.4%	12	9.4%	127	100.0%
The Traditional Urban Center is a safe place	7	5.0%	62	44.6%	38	27.3%	23	16.5%	9	6.5%	139	100.0%
The parking available in the Traditional Urban Center is adequate	9	6.5%	44	31.9%	16	11.6%	37	26.8%	32	23.2%	138	100.0%
The client traffic to the Traditional Urban Center is adequate	13	9.3%	76	54.3%	20	14.3%	23	16.4%	8	5.7%	140	100.0%

Note: The numerical basis for this table is the businesses surveyed that respond to this question.

Among the reasons provided by those who would consider the Town Center for their new location, 23.8% are related with accessibility, 18% are related to the flow of people in the area, and 10% are related to the clientele in the area. On the other hand, among the reasons provided by those who would not consider the Town Center for their new location, 26% are related to the lack of parking, 14% are related to the scarcity of clients, while 10% are related to the convenience of getting established in a shopping center.

Current location of business establishments

Seven out of every ten (76.8%) respondents agree or strongly agree that the amount of cultural activities in their area is adequate. Six out of every ten (65.0%) respondents agree or strongly agree that the urban train has been very important for their business. Seven out of every ten (75.7%) respondents agree or strongly agree that the variety of businesses in their area is adequate to fulfill the residents' needs. Seven out of every ten (75.9%) respondents agree or strongly agree that the variety of businesses in their area is adequate to attract non-resident visitors.

Three out of every ten (37.6%) respondents say that their clients are satisfied with the parking facilities in the area where the establishment is located, while five out of every ten disagree or strongly disagree with this statement. Six out of every ten (66.4%) respondents say that their clients are satisfied with the quality of the sidewalks in the area where the establishment is located. Six out of every ten (65.1%) respondents say that their clients are satisfied with the quality of the public infrastructure in the area where the establishment is located.

Eight out of every ten (80.7%) respondents agree or strongly agree that the internet access meets the needs of their businesses. Nearly eight out of every ten (78.8%) respondents agree or strongly agree that having hospitals and medical services nearby has been very important for their businesses. Eight out of every ten (80.9%) respondents agree or strongly agree that the traffic on road PR-2 has been very important for their businesses. Six out of every ten (63.1%) respondents agree or strongly agree that having shopping centers nearby has been very important for their businesses.

Furthermore, eight out of every ten (80.5%) respondents say they have the necessary capital to adequately maintain their business.

Table 2: Assertions about the current location of the commercial establishment

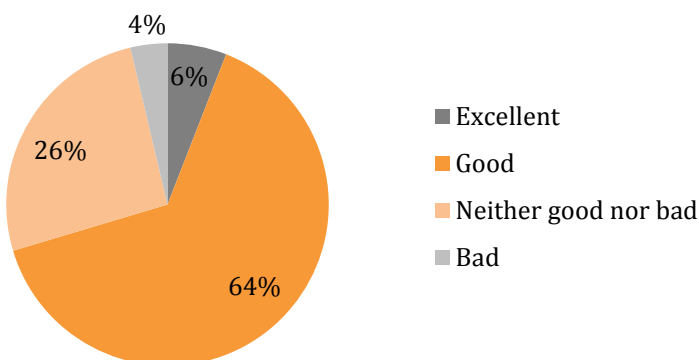
	Strongly Agrees		Agrees		Neither Agrees Nor Disagrees		Disagrees		Strongly Disagrees	
	Frec.	%	Frec.	%	Frec.	%	Frec.	%	Frec.	%
The quantity of cultural activities is adequate	18	18.9%	55	57.9%	11	11.6%	6	6.3%	5	5.3%
The urban train has been very important for my business	53	38.7%	36	26.3%	18	13.1%	18	13.1%	12	8.8%
The mix of businesses is adequate to attend the needs of the residents	37	26.4%	69	49.3%	17	12.1%	11	7.9%	6	4.3%
The mix of businesses is adequate to attract non-resident visitors	35	24.8%	72	51.1%	8	5.7%	19	13.5%	7	5.0%
My clients are satisfied with the parking facilities in the sector	15	10.6%	38	27.0%	16	11.3%	31	22.0%	41	29.1%
My clients are satisfied with the quality of the sidewalks	17	13.3%	68	53.1%	14	10.9%	16	12.5%	13	10.2%
My clients are satisfied with the quality of the public infrastructure	9	7.1%	73	57.9%	22	17.5%	12	9.5%	10	7.9%
Access to the internet meets the needs of my business	30	27.5%	58	53.2%	3	2.8%	10	9.2%	8	7.3%
Proximity to hospitals and medical services has been very important to my business	54	39.4%	54	39.4%	7	5.1%	16	11.7%	6	4.4%
The traffic along PR-2 has been very important for my business	47	34.6%	63	46.3%	9	6.6%	8	5.9%	9	6.6%
Proximity to malls has been very important for my business	31	22.0%	58	41.1%	15	10.6%	20	14.2%	17	12.1%
I have the capital necessary to adequately maintain my business	24	20.3%	71	60.2%	11	9.3%	3	2.5%	9	7.6%

Note: The numeric basis for this table is the businesses surveyed who responded to this question.

Bayamón Central District

Six out of every ten (64%) respondents classify the quality of businesses in the Bayamón Central District as good. As for the need for additional businesses in the CDB, 17% of respondents say that food establishments, such as restaurants and cafes, are needed; 9% say grocery stores and supermarkets are needed; while 18% say no additional businesses are needed in the CDB.

Quality of the businesses in the Central District of Bayamon



Note: The numeric basis for this table is the 148 businesses surveyed.

Eight out of every ten (83.8%) respondents would recommend the CDB as a place to establish a business. Of these, 32% identify accessibility as the reason to recommend the CDB, while 22% say it is the flow of people and clients. On the other hand, for those who wouldn't recommend the CDB as a place to establish a business, the main reasons are related to the lack of parking spaces (21%) and the decrease in client traffic.

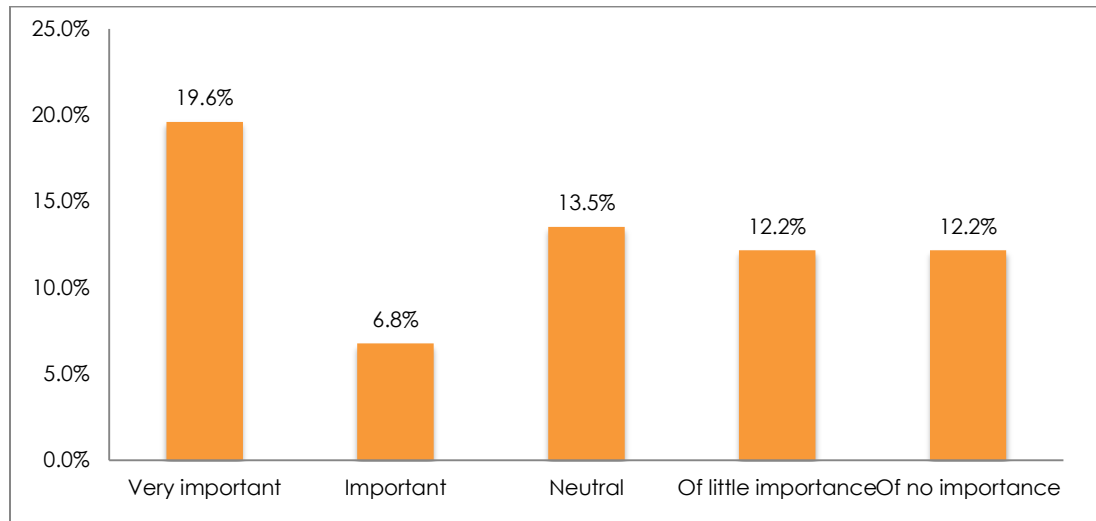
Would you recommend the Central District in Bayamon as a place to establish a business?

	Frec.	%
Yes	124	83.8%
No	24	16.2%
Total	148	100%

Note: The numeric basis of this table is the 148 businesses surveyed.

Two out of every ten (26.4%) respondents believe the cultural activities carried out by the Municipality of Bayamón are important or somewhat important to their businesses. Likewise, two out of every ten (24.4%) respondents believe the cultural activities carried out by the Municipality of Bayamón are of little or no importance to their businesses. Three out of every ten (35.8%) respondents don't know or didn't state the importance of the cultural activities carried out by the Municipality of Bayamón.

Importance of the cultural activities carried out in the Municipality.

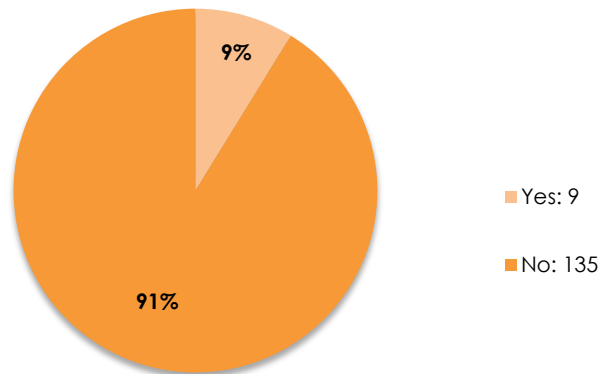


Note: The numeric basis for this table is the 148 businesses surveyed.

Asociación de Comerciantes de Bayamón (Bayamón Trade Association)

Fewer than one out of every ten (9%) respondents know the Bayamón Trade Association (ACB, by its Spanish acronym). Out of those who know the Association, 23% belong to the ACB.

Those interviewed that know about the Business Association of Bayamon (ACB)



Note: The numeric basis for this table is the 148 businesses surveyed.

Among the respondents who said they know the Bayamón Trade Association, 44.4% agree or strongly agree that the ACB looks after the best interests of merchants. A similar amount (42.9%) agrees or strongly agrees that the ACB maintains close communications with their members. Half of respondents said they agree or strongly agree that the ACB keeps a program to strengthen the businesses in the town center. Sixty-six point seven percent (66.7%) of respondents stated

they agree or strongly agree that the ACB intervenes to solve problems brought to them by their members. A similar amount said they agree that merchants do networking of their own accord.

Table 3: Assertions regarding the Business Association of Bayamon (ACB)

	Strongly Agrees		Agrees		Neither Agrees Nor Disagrees		Disagrees		Strongly Disagrees		Total	
	Frec.	%	Frec.	%	Frec.	%	Frec.	%	Frec.	%	Frec.	%
The Business Association of Bayamón (ACB) looks out for the best interests of the businesses	2	22.2%	2	22.2%	3	33.3%	2	22.2%	0	0.0%	9	100.0%
The ACB maintains close communication with its partners	1	14.3%	2	28.6%	3	42.9%	1	14.3%	0	0.0%	7	100.0%
The ACB maintains a program to strengthen the businesses of the urban center	1	16.7%	2	33.3%	2	33.3%	1	16.7%	0	0.0%	6	100.0%
The ACB intervenes to resolve problems expressed by its partners	1	16.7%	3	50.0%	0	0.0%	2	33.3%	0	0.0%	6	100.0%
The businesses carry out networking of their own initiative. (e.g. They interchange information in an informal manner with nearby businesses)	0	0.0%	4	66.7%	1	16.7%	1	16.7%	0	0.0%	6	100.0%

Note: The numeric basis for this table is the businesses surveyed that know about the association and that responded to this question.

FINDINGS: INTERVIEWS TO KEY INFORMANTS

A. THE MEDICAL-HOSPITAL COMPLEX

Preliminary findings of this research show how the medical-hospital complex has the potential to become a key sector for the CDB's project for economic revitalization. Strengthening value chains to include supplies and support services for this complex should be at the center of the strategy to promote new initiatives geared towards turning the CDB into a center for an innovative city.

Out of all the interviews conducted so far, we can clearly observe that the medical-hospital sector is undoubtedly the most dynamic complex in the CDB. One of the respondents reported that their hospital complex received 7,400 visits per day. This exceeds, by far, the power of public attraction to the CDB from other enterprises interviewed for this study.

The vision to create an innovative city in Bayamón by using the healthcare sector as its focal point was stated in its embryonic form by one of our key informants, when they mentioned in an interview that:

"Bayamón could become a great healthcare city, akin to John Hopkins. There is human capital. At our hospital, we have doctors who were trained in John Hopkins, Harvard, Boston Children's Hospital, Mayo Clinic, Miami Children's Hospital, Columbia Presbyterian, and the best hospitals in the world."

The findings in this research highlight the potential for a project of this kind in the CDB. For example, the representatives of this hospital reported that the hospital's current agenda includes the creation of an oncology center, in collaboration with the most important medical research institution in the world for cancer treatment (Moffitt Research Center), which will invest \$80 - 90 million in the CDB.

This is added to the existing research agreements the hospital currently holds with the UPR medical schools in Bayamón and Ponce, and with institutions in the United States, such as the Cincinnati Children's Hospital. If all involved parties coordinate their actions to enable innovation, what our preliminary findings show is that the CDB could become an important economic center for the healthcare sector.

B. POSSIBLE INITIATIVES

An important finding was that this hospital complex has an unmet demand for goods and services that could turn into new entrepreneurial initiatives. As we mentioned before, one of the key elements for the development of an innovative city is the existence of spatial proximity between the various system components. In the case of the CDB, the fact that it has a high concentration of medical establishments and services in a relatively reduced space could potentially enable the necessary economic agglomeration to revitalize the CDB. This is very important, because the possible economic development strategy could be to create enterprises in the CDB that integrate into the chain of supplies and services for the medical-hospital complex.

Some of the unmet needs mentioned by the respondents were:

Generic medicines: The recent increase, of up to 1000%, in non-proprietary treatments makes it difficult right now for both physicians and hospitals to provide an adequate treatment while

simultaneously managing costs. Therefore, our informant was very emphatic that an initiative to produce generic medications in Bayamón would be guaranteed to be a successful enterprise.

| **Syringes and IVs:** Likewise, the study revealed that another area for possible entrepreneurial investment could be the production and/or distribution of syringes and IVs. Incredibly enough, these products have lately been scarce with relative frequency at the hospital.

| **Industrial Laundry:** Right now, the hospital industry has a huge demand for laundry services, which their current provider cannot cover with efficiency. To make matters worse, their provider is located in Ponce, which makes services more costly and difficult to provide. The need is such that hospitals have considered or are currently considering establishing their own laundry facilities. But according to what we could determine from the interviews, the best idea would be to have a good laundry provider in Bayamón.

| **Medical Technology Equipment:** According to our respondents, Puerto Rico has no suppliers for the most advanced medical equipment at optimal prices, although they are readily available in the United States market. This service would not only involve sales, but also repair and maintenance, and possibly the manufacture of replacements.

| **Miscellaneous Goods:** Our informants stated that even miscellaneous goods, such as paper gowns, hygienic pads, gowns for the operating room, and other similar goods could also be locally provided.

In terms of research, what is being done in the medical-hospital sector aims to strengthen the healthcare management processes for the population in the area of Bayamón. Their research is being conducted in the premises of these institutions, which is why we could not identify any opportunities to develop medical research centers outside of their premises. Any expansion would have to be done in the vicinity of these institutions. The organizations carrying out research currently maintain collaborative relationships with the University of Puerto Rico School of Medicine.

However, this research activity provides a base for a collaborative relationship between the main hospital centers and the institutions for technical education in healthcare, with the goal of promoting educational workshops for the industry at properties located in the Town Center of the municipality of Bayamón. This type of encounter promotes Bayamón's position as an innovative city, and it allows the expansion of events and the increase of visitors for the Town Center.

C. THE EDUCATIONAL SECTOR

Although the healthcare sector could potentially be an economic anchor sector to generate a conglomerate of new enterprises in the CDB, another asset the CDB has is the great number of educational institutions already established within. One condition in the process of innovation, and for turning this process into an economic activity, is to have existing collaborative relationships to enable the creation and broadcast of knowledge. This learning process is an important part in the necessary elements for an innovative city. The existence of a considerable number of educational institutions in the CDB could be key in this process.

An important finding for this is that a significant amount of the programs in these educational institutions established in the CDB are linked to healthcare education. One of the respondents remarked that the growth of their institution took off only after their School of Public Health was established in 2010. The respondent also stated that the institution went from being relatively small to having about 3,000 students. The greatest demand right now is for their nursing program, and their current growth strategy rests on offering new programs on oncology nursing and a master's degree in nursing. Another important finding is that in a near future, this institution would like to be able to open a center for ulcer treatment—as part of their student training—and later on, a laboratory to provide community services.

In strategic terms, the existence of this university center in the CDB, along with other healthcare institutions, could be the critical mass necessary to—along with the medical-hospital complex—create collaborative networks to generate knowledge, which are necessary to turn Bayamón into an innovative city.

D. POSSIBLE INITIATIVES

The unmet demand in this educational sector could result in new initiatives, mostly focusing on the demand from students. According to data revealed in this research, the three post-secondary institutions and the university institution that responded attract 1,900 people per day to the CDB, including students and workers, out of which 1,750 are students.

Some of the unmet needs mentioned by the respondents were:

- | **More variety in food offerings:** There was a consensus among respondents that the offer and variety of food establishments in the CDB could improve, and that there is even space for growth. An important point is that the nocturnal students' demand for food during the night has not been covered. Besides, there was a lot of emphasis for the establishments to be 'good places,' which involves an expectation for certain levels of quality.
- | **Centers for childcare and primary development:** A significant portion of the students in these institutions are parents, which is why the informants from 3 out of the 4 responding institutions told us that a childcare center and a primary development center would have great demand.
- | **Cafes and places to socialize:** There was a consensus that students in the CDB don't have any recreation spaces to serve as meeting points, where students could talk and socialize. Cafes were repeatedly suggested as possible initiatives.
- | **Gymnasium:** The key informant from the university institution mentioned that a gym in the center would be very successful among students and workers. Since this institution has a yearly enrollment of 3,000 students, it's possible that the market is ripe for this service.
- | **Bookshop:** One of the informants from the post-secondary institutions mentioned the need for a bookshop. Just like with the gym, the fact that there are almost 4,000 enrolled students in the CDB make it possible that this market is also ripe for this initiative.

GENERAL RECOMMENDATIONS

The Central District of Bayamon is a diverse place that competes with multiple socioeconomic dynamics that occur in its periphery. At the same time, the district confronts multiple internal challenges in terms of its economic vitality and the type of user that frequents the area. Nevertheless, in terms of typical public interventions (improvements in public utilities, parks, communication networks, sidewalk widening, parking, lighting, among others) the municipality possesses sufficient urban amenities and infrastructure to be able to capitalize on new economic activity. In other words, **the revitalization of the DCB does not necessarily imply costly public infrastructure interventions; instead, it consists of building upon the value of existing assets. This can be done via the production of new creative economies within the urban fabric of the CDB, and by strengthening the interrelationships between these activities and sectors, and the existing economic activities and assets within and surrounding the area.**

The Municipality has a diverse economy that incorporates the principal economic activities in Puerto Rico and businesses in each region. It is distinguished as being a Region leader, particularly for its health, education, and commercial sectors. It also has excellent access to the principal road network in Puerto Rico, which connects to the primary poles of economic activity in San Juan, and also to the port infrastructure, including the San Juan Port and the International Airport.

At the same time, the CDB benefits from large-scale economic and commercial activity at the regional level, which in turn nurtures the markets of the CDB. Among these can be distinguished the minor scale commercial life that is concentrated along the peripheral streets of the CDB, a group that benefits from the intense vehicular flow along these avenues, or the spillover effects of anchor stores and commercial centers. Lagging behind are those sectors that are not nurtured by this flow of visitors generated by the large businesses located at the principal poles of commercial activity, such as the Traditional Urban Center (TUC) in the CDB, for example.

Changes in economic activity in the Municipality have displaced traditional activity, and resulted in an increase in unoccupied properties in certain corridors of the CDB and the TUC. This presents an opportunity to implement a strategy that capitalizes on the preferences of the “Y generation” and other population groups that are returning to the urban centers to live, create, and work. It also provides spaces to attract specialized commerce that is probably concentrated in other parts of the metropolitan area, based on the development strategy of the CDB as an innovation district.

In consideration of the above and other aspects discussed in the SWOT analysis, the municipal strategy to strengthen economic development should be anchored in innovation, the creative economy, and entrepreneurship. Globalization has made more relevant the need to strengthen internal demand in Puerto Rico as well as the export of services. As opposed to the export of manufactured goods, a more relevant economic development strategy is the promotion of mechanisms that foment innovation and entrepreneurship. This implies that the strategy of the municipality should be tailored to meet both the needs of its residents and businesses, as well as the regional market and markets associated with the export of services.

This type of strategy will confront direct competition with Santurce, an area that has been capitalizing on these trends, propelled by numerous factors including tax credits granted to the sector, investment in cultural activities, private investment in new commercial and residential development, as well as creative

and innovative movements that have emerged from the community base. Nevertheless, Bayamon has certain characteristics that distinguish it from Santurce, such as its smaller scale, greater diversity and concentration of economic activity, a better fiscal situation in the TUC, proximity to important production centers, access to regional markets in Bayamon, and excellent access to public transportation from San Juan, among others.

Based on the analysis carried out in the report, we recommend that the Municipality **adopt a Public Policy to foment economic development based on innovation and the creative economy:**

- 1. Develop a market district**
- 2. Delineate strategic sectors within the CDB**
 - a. TUC – The Plaza, its periphery, with emphasis on areas surrounding the *Plaza de Recreo*, and the streets Dr. Santiago Veve and Barbosa Street.
 - b. Network of parks and public meeting spaces and nearby sectors with potential for infill development.
 - c. Principal poles of economic activity associated with health.
- 3. Develop strategic alliances with “Innovation drivers”**
 - a. HIMA San Pablo
 - b. University Institutions with creative and entrepreneurship programs.
 - c. Businesses and organizations associated with technology in or outside of the Municipality of Bayamon.
 - d. Businesses that have particular specialties that could collaborate in innovation processes in the service area, materials, packaging, design, electronic, among others and with whom it is possible to create tax credit programs for services rendered to the community of the District.
 - e. Businesses emblematic of high value production and export (i.e.: Goya).
 - f. Gastronomic and entertainment industries.
- 4. Develop the so-called “innovation cultivators,”** stemming from the vision that the CDB is turning into an innovation district, and based on the creation of the appropriate ecosystem for this:
 - a. Use the alliances to enhance the development of a Bayamon Technology Business Incubator (BTBI).
 - b. Promote the development of a “makers lab” in the gastronomy sector that collaborates with the BTBI.
 - c. Promote the development of a “makers lab” in the cultural area adjacent to the *Café-Carmen Delia Dipini* Theatre and the new *Espacio Emergente*. This should also collaborate with the BTBI on a model that would also generate revenue for the center.
- 5. Development of amenities:**
 - a. Attract businesses and strategic sectors in demand by the “creative class” that include the following types of businesses:
 - i. Health clubs
 - ii. Meeting spaces
 - iii. Cultural venues
 - iv. Creative and diverse gastronomy
 - v. Virtual communities
 - vi. Specialty shops
 - b. Meet the identified needs of the local residential and commercial population.
 - i. Supermarkets
 - ii. Street parking for residents

- iii. Signage
 - iv. Traffic improvements
 - v. Weekly activities so that residents of the CDB can meet and share.
- c. Develop alliances with community groups or entrepreneurial organizations in Bayamon in order to integrate them into a program of activities in the TUC focused on entrepreneurial development. These programs could include training workshops for entrepreneurs, technology fairs, gastronomic fairs, and urban markets, among others. The idea is to provide a continuous and diverse stream of activities associated with entrepreneurial development.

6. Focus on strengthening physical public assets and linkages

- a. Dedicate public properties for the use of activities that promote innovation and entrepreneurship;
- b. Focus on the development of infrastructure that interconnects strategic sectors with multimodal transportation;
- c. Connect parks and public assets via green corridors that are pedestrian and bike friendly and link to public transportation options. Funnel residents and tourists along these corridors into the CDB (eg: connect Shoreline, Linear Park, and Monagas Park to TUC and Urban Train, for example).
- d. Capitalize on the market opportunities associated with private transportation operations organized with platforms like UBER, with the goal of steering client traffic towards the CDB.

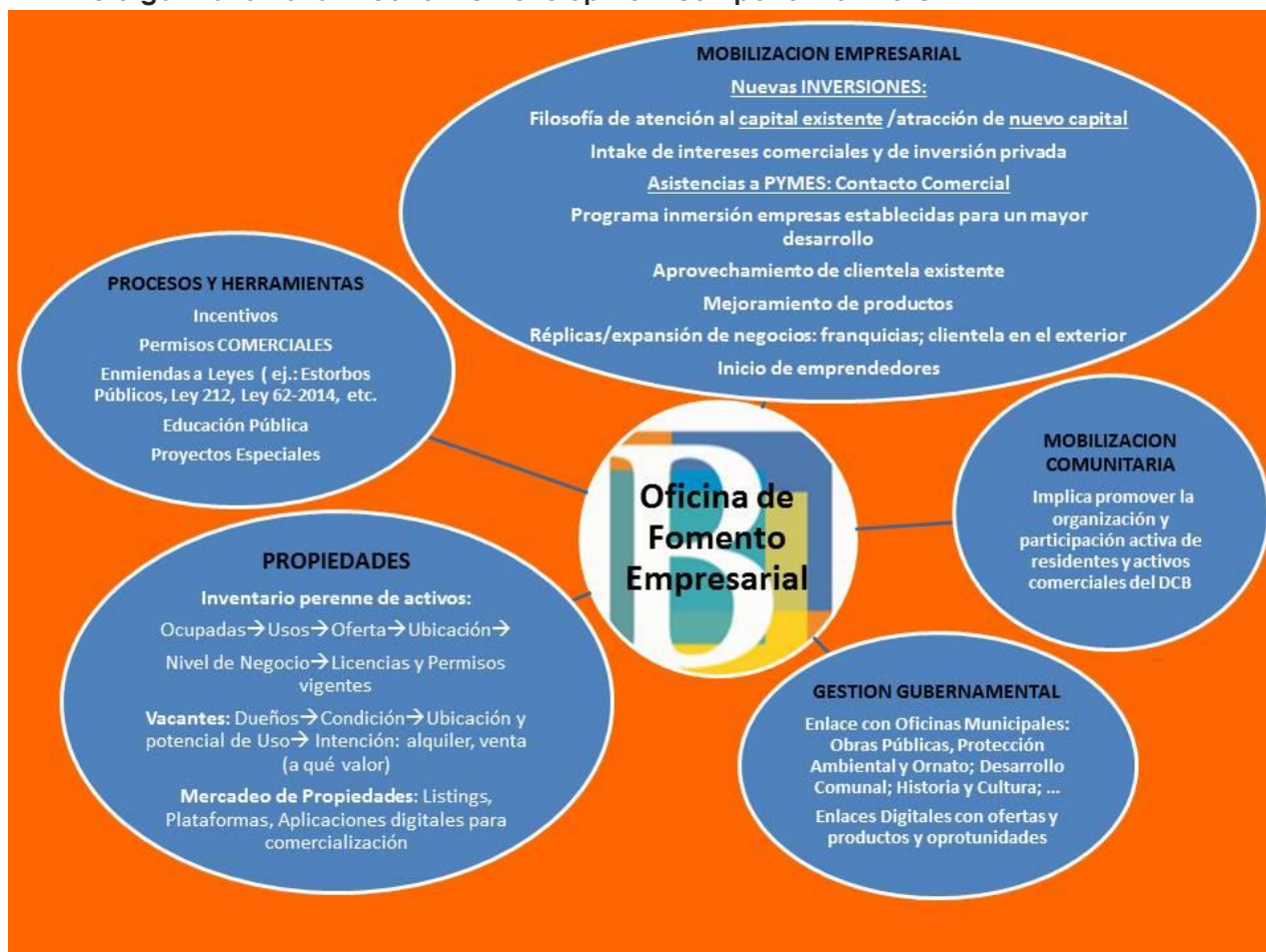
The strategy should consider the socioeconomic trends of the urban areas of neighboring towns, such as Guaynabo and San Juan, that benefit from good access to their CDBs as well as connection to the metro system, *Tren Urbano*. **In order to obtain the vitality required in a Central District, a City should obtain a critical mass of participants that interact regularly with the CDB.** This critical mass may be composed both of current users, as well as new users of the District. Attracting the creative class is imperative for this strategy. The Municipality should ensure two conditions, specifically: **develop collaborative workspaces that could occupy vacant structures in the TUC of the CDB, and assure adequate Internet connectivity in this area.** Once a creative work center is established, housing demand should germinate, as well as demand for recreation alternatives, including more sophisticated and modern modes based on technologies, such as video games and hackathons, among others. Opportunities for accommodation and entrepreneurship in this last context could be focused on:

- Supporting the initiative with a housing component with micro-apartments available for rent at market rate. A portion of these would be dedicated to serve temporary clients that use the CDB for its health services and/or the higher-level educational activities that are concentrated in the area.
- Provide tax incentives to attract certain businesses in particular sectors. Include the owners of vacant properties in the incentives if their activities promote the strategy.

OPERACIONALIZATION OF THE RECOMMENDATIONS

Two principal themes will take the group of recommendations outlined in this report to the operational level, specifically:

1. The organization of an Economic Development component of the CDB



One of the institutional challenges of the city is properly using municipal resources to direct activities and projects that can convert the Central District of Bayamon into an area that offers high quality of life. This will require the formalization of an organizational component dedicated to facilitating and promoting the new economic order proposed.

A component with the following characteristics is recommended:

- Small in structure, agile, diversified, and with accountability obligations with respect to the initiatives.
- With high-level human resources, exclusively dedicated to the scope of the adopted vision and the objectives being pursued. It will be important to have personnel skilled in the areas of project management, architecture and design, informatics and networks, real estate, project financing, commercialization of initiatives, and citizen participation.
- With pertinent support networks that facilitate investigation, convening power, and management so as to catalyze initiatives focused on the geographic area of the CDB.
- With rigorous discipline in the context of counseling and decision making in direct and constant interaction with the Mayor and Vice-Mayor.

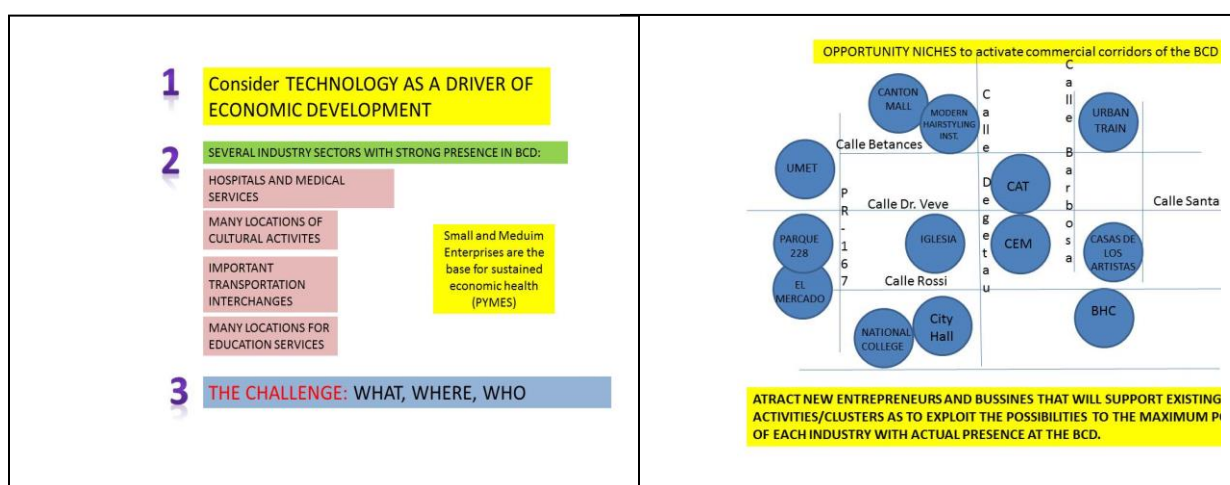
2. Activate an Incentive Program directed towards attracting pertinent companies and businesses that align with the economic development vision adopted for the Central District of Bayamon.

The following **OBJECTIVES** provide the foundation for achieving the development vision:

- Promote economic development through **innovation and the use of technologies** in order to foster the development of interrelated goods and services, among others. Apply this to the major economic activity clusters in the CDB: health, education, culture, and transportation.
- **Foster collaborative spaces** where the fusion of innovation and technology constitute the point of departure for new ventures in the Central District. This includes public and private spaces characterized by comfort, safety, and access to reliable internet and charging stations.
- **Promote initiatives** with a strong urban character, projecting competitiveness, and become a platform for the achievement of individual and collective aspirations of those who reside, do business, or enjoy Bayamon:
 - Well-paid jobs
 - A Central District with technological resources that support collaboration and innovation
 - Companies, businesses, organizations, or groups that promote and support the growth of individuals, firms, and ideas, specifically: incubators, accelerators, centers of proof of concept, offices for the transfer of technologies, collaborative working spaces, and educational centers.
 - A Brand for the District, with specific identity of the CDB
 - Diverse traditional and non-traditional incentives, that motivate and attract owners, lessors, companies, clients, and communities, all integrated into the pillars of a technology innovation project in the CDB.
 - Physical spaces that are attractive, agreeable, diverse, innovative, and productive, and that serve as a place to live, work, create, and enjoy.
- Part of the strategy is **the projection of geographic sectors in the CDB with a concentration of activities in the principal economic sectors** as platforms of innovation and creation:
 - Health Cluster:
 - Santa Cruz Street, from P.R. Num. 5 until Leones Club; Manuel Rossi Street (vicinity of Bayamon Health Center).
 - **Uses:** medical offices, laboratories, medical equipment, pharmacies, legal offices, restaurants, cafeterias, fast food and food truck businesses, and parking spaces. **From the interviews with key persons in the health sector, an opportunity has been identified to develop a large-scale laundry business**, in order to meet the needs of the industry.
 - Education Cluster:
 - Streets: Dr. Veve, North, (West – corner of Betances street, extending East by way of Ramal 8855, intercepting PR. Num. 5 at the *Tren Urbano* station. Road PR Num. 2 to the South, road PR Num. 5 to the East, and road PR Num. 2 to the West).
 - **Uses:** academies retail stores directed to providing services to students, collaborative spaces, conference rooms, service centers of technology and electronic equipment, recreational centers, and centers for intellectual and social interchange, etc.
 - Transportation Cluster:
 - Streets: North, PR Num. 29; South, PR Num. 2; West, PR Num. 2, and in the East, Avenue Bobby Capó.
 - **Uses:** Parking for private and public buses, media and lightweight public transportation vehicles, and private vehicles.
 - Cultural Cluster:
 - Traditional Urban Center: Streets: Barbosa, Dr. Veve, Degetau, Matadero, and Palmar.

- **Uses:** museums, specialty restaurants, academies, general and academic libraries and e-libraries, cafeterias, fast food, child care centers, lawyers offices, cultural organizations, and others related to the creative economy.

The District has a diverse and a critical mass of residents, government employees, students, and visitors in general. The new and refreshing face of the CDB, constructed by the revitalization project, will consist of green spaces, eco-friendly structures, an emphasis on pedestrian walkways, and the interconnection between diverse economic sectors. The principal economic clusters in the District operate during extended hours. Some hospitals are open until very late hours in the night, or operate 24 hours every day of the week. As such, the public is present in the CDB and there is the potential to attract more clientele. This can be supported if businesses extend their hours of service, and develop the style, appearance, and operation that satisfy the tastes of certain age groups. Other priorities include satisfying the demand for contemporary goods and services and providing accessible technological resources. The municipality should capitalize on the preferences and needs of the established businesses, the startups, and other population groups that are returning to the urban center to live, create, and work.



Urban nucleus defined as the CDB requires constant attention given the value that it could add to existing investments, the positive fiscal impact for the municipality, and the economic development tied to the presence of innovative and entrepreneurial individuals.

INCENTIVIZING ENTREPRENEURSHIP

Anchoring the economic development of the CDB in innovation, the creative economy, and entrepreneurship requires support through focused interventions and incentives for the private sector.

The CDB has the opportunity to attract new consumers with high acquisition power, as well as potential producers, who may be interested in establishing themselves in this area as an alternative to higher-cost locations in other sectors of San Juan. In summary, in terms of priorities, the Municipality of Bayamón will concentrate its efforts in bringing new economic activity of the creative class to the traditional center (value added services).

At the same time, a parallel priority is to foment the development of creative companies in the areas of gastronomy and entertainment, as well as other strategies that enhance the creative and knowledge economy. The efforts of the interventions should not be confused as being exclusively

dependent on public resources. **The model to be implemented should be one that includes non-traditional incentives which complement the traditional monetary incentives.** This group of stimulus can be of non-monetary character, such as incentives based on the use of physical assets, of linkages and networks, as well as public and private management.

Examples of types of incentives include tax exemptions for defined periods of time for specific types of businesses. For example, these incentives could be directed towards technology-intensive businesses, businesses that promote collaborative spaces, and businesses that expand hours of operations, among others. Additional incentives include the delegation of the use of vacant infrastructure; collaborative agreements and contribution towards project development; human capital assistance; and incubator platforms for new businesses founded on the knowledge of businesses that are already part of the commercial fabric of Bayamon. These established businesses could exercise good practices in corporate responsibility by temporarily promoting related businesses.

In the manner that these different efforts are combined, a new entrepreneurial ecosystem will be developed in Bayamon. This ecosystem will have characteristics specific to the CDB, and have the possibility to successfully compete with other attractive areas in the metropolis, especially if defined by a specific branding for the CDB.

Primary Objectives

- Establish businesses that support the health, education, transportation, and cultural clusters, by providing the goods and services necessary for their operation.
- Establish innovative institutions.
- Establish linkages between different clusters that mutually support one another and contribute to the well-being of the CDB.
- Provide the technological infrastructure to support and catalyze the development of businesses and help them attain their maximum potential.
- Create the critical mass necessary to revitalize the economic activity of the CDB.
- Locate and relocate businesses so that they are more accessible to the cluster to be served.
- Establish incentives to attract new businesses and help existing ones.
- Grow and strengthen public security especially after 5:00 PM.
- Establish a plan to market the CDB as an innovation district.
- Attend the need to refurbish public spaces to promote collaboration between clusters.
- Include Canton Mall in the revitalization project for the Central District and the associated intervention plans, with the aim of extending its service hours, improving the operation and appearance of the businesses, and promoting a larger variety of businesses. Canton Mall should be fully integrated into the project.
- Extend the hours of operation of the TUC.

INTERVENTIONS AND INCENTIVES FOR PROPERTY OWNERS

Private tenure properties with commercial zoning need to be **rehabilitated with the aim of attaining the maximum potential occupation of the CDB.** The commercial structures should strive to present their optimal condition through structural improvements, utility allocations (electricity, plumbing, air conditioning, internet), improvements to windows, relationships with passers-by (business revenue),

security elements, compliance with the codes and ADA regulations, interior design for adequate operation, among others. This should be achieved **in coordination with the Office of Design and Construction of the Municipality of Bayamon**. **Initiatives along this line can be supported with economic subsidies that prioritize infrastructure improvements dedicated to commercial activity that is aligned with the development vision of the CDB.**

- **Support programs for non-commercial property owners that initiate improvement projects in the Central District** where the owner provides the materials and the Municipality provides the labor as well as the disposal of debris.
- **Provide exemptions in municipal fees** for properties while they are under construction or renovation, whether commercial or residential.
- **Provide a 50% subsidy for the cost of improvements**, until a maximum of \$7,000.
- **Provide prime interest loans up to \$15,000**, without requiring credit history and permitting that the business inventory is used as collateral for up to 80% of the loan amount.
- **Through the Municipal Revenue Collection Center, provide subsidies for the settlement of debts with respect to immovable property**, up to a maximum of 10% of the debt amount.
- **Provide tax exemptions of 90% for six (6) years on 9.58% of the municipal taxes for immovable property**. The objective is to motivate the lessor to rent his or her property at market prices so that they may receive income from the rent and will also be liberated of economic pressures related to the tax payments without receiving any benefits.

INTERVENTIONS AND INCENTIVES FOR BUSINESSES

- **Provide references and tenanting strategies for available lots in the CDB** with the goal of redefining the use of properties based on market realities. Help establish businesses that are pertinent in the area and the sector of economic activity related to the CDB.
- **Mitigate noise pollution and elements of visual deterioration**, by providing education in marketing for newly established businesses. At the same time, establish related ordinances focused on achieving pleasant and attractive environments. It is also possible to incentivize desirable actions related to signage, effective marketing, windows, storefronts, and other urban elements aligned with the development vision of the CDB.
- **Subsidize salaries for extended hour shifts** (4 hours of employment between 6 and 10 PM) during one year for businesses in areas that need stimulation.
- Offer **credits attached to the number of people employed by a business**.
- Offer **credits to owners and entrepreneurs for saving energy and water**.

- For startups, **offer tax exemption up to 90% of 7.58% tax on Movable Property (equipment, inventory, among others).**
- **Provide prime interest loans to diversify inventory** up to \$15,000 without requiring credit history, and permitting that the business inventory is used as collateral for up to 80% of the loan amount.
- **Subsidies of up to 50% of the rent** of commercial space for a time period of no less than one (1) year.
- **Assistance in business promotion** in the form of counseling on design strategies, as well as 50% of the costs of promotion.
- **Municipal tax exemptions on movable and non-movable property** of 50% for a period of one (1) year, from the date of the start of operations. Exemption of 50% on municipal patents for the same period of time. Once said date has expired, the startup businesses in the Central District of Bayamon will enjoy exemptions of descending character for one (1) year, on applicable contributions: beginning at 7%, the exemption will be reduced to 5% after six (6) months, and 3% in the last three (3) months of the exemption period.
- **Tax exemptions of up to 90% on improvements to building structures** which are destined for commercial use, particularly of startups, who are also owners of movable and non-movable goods. There are at least three (3) types of improvements; superior, intermediate, and basic – depending on the type of materials used (wood, metal, and cement).
- **Fiscal incentives that directly or indirectly (through collective investment or other businesses) invest in the capital of businesses with new, innovative creations.** This should consist in a reduction of rental taxes of up to 20% of the investment carried out, that should not be less than \$100,000 during any fiscal year, and that will take place in no less than two (2) years.
- **Acceleration of commercial permitting processes (occupation and operation permits in less than three days)**
- **Training in the use of technologies** for small businesses.
- Work in coordination with the businesses of the CDB to promote artistic, athletic, cultural, and culinary activities. **Incentivize the collaboration between the private sector and the municipality with the goal of developing a continuous events program that is known by the public in the CDB.**
- **Establish a fund for business micro-loans.**
- **Disseminate the entrepreneurial initiatives in the CDB,** with the goal of attracting clientele. Use the webpage of the CDB, and include information on events, sales, and properties available for sale or rent. Achieve this in coordination with the owners, businesses, and residents of the CDB.

INTERVENTIONS and INCENTIVES FOR CLIENTS

- **“Pocket-parking” strategies** and of **the establishment of areas for social interchange**, with the aim of creating the critical mass necessary to increase the volume of potential clients for CDB businesses.
- **Free parking for two (2) hours for people shopping in the CDB.**
- **Promote patronage of local businesses and activities through discounts to state and municipal public employees.**
- Discount programs in participating stores.
- Attract and entertain the residential and visiting public to the CDB **through the organization of continuous weekly entertainment and events programs with artists, businesses, and community groups, with sufficient variety to attract all age-groups and socio-economic sectors** (mimes, clowns, jugglers, musicians, street performers, theatre, open-mic, poetry and short-story readings, workshops, neighborhood cinema, product tasting and exhibition, artist fairs, natural markets, cycling groups, consumer orientation, public orientation campaigns, health campaigns, among others). School children and related university departments in the arts should have workshops to practice and display their disciplines.
- Develop the **concept of Midnight Markets.**
- **Establish subsidized social spaces** for cybernetic work and study, as well as places to charge electronic equipment like cell-phones, tablets, and portable computers.

INTERVENTIONS AND INCENTIVES FOR CREATIVITY, INNOVATION, a KNOWLEDGE CULTURE, and TECHNOLOGY

- **Stimulate that innovative workers live in the CDB through housing incentives:**
 - Provide housing spaces adapted to the tastes, preferences, and lifestyles of entrepreneurs, workers, and professionals that at the same time can be used to operate their business. This could be achieved by including office spaces, workshops, and stores in the housing vicinity.
 - Incentivize productive activity among tenants in priority areas of interest, through meetings with tenants with projects that align with the municipal vision, and have the potential to promote the CDB. Beneficiaries could be innovative entrepreneurs and employees of newly founded businesses, who would be provided with housing spaces subsidized for a fixed term. At the end of the term, they would be presented with incentives to rent or buy housing space in the CDB.
- **Tax relief to stimulate highly qualified workers in activities aligned with the development vision of the CDB.**
 - Contribution relief related to payments for financial instruments for newly created innovation businesses or business incubators. These should be applied to the directors, employees, and external resources, as well as the income derived through the financial

instruments by those individuals or entities, and only when they are used to improve an economic activity in the CDB.

- **Facilitate the use of videoconferences for all types of interaction between the economic sectors, municipal government, and external actors.**
- **Facilitate the sale, purchase, and distribution of goods and services to homes using the Internet.**
- **Promote eco-friendly initiatives that improve the quality of the environment, and help with the preservation of historical structures subject to harm from emissions.**
 - Incentivize the use of hybrid and electric motor vehicles, or other vehicles that do not use fossil fuels.
 - Establish pedestrian areas and restrict the use of motor vehicles.
 - Incentivize the use of the bicycle as a mode of transportation.

Examples of Public Private Interventions:

<p>Incentives developed specifically for product and service providers for the creative class.</p> <ul style="list-style-type: none"> • Creative Industries Law of Puerto Rico • Creative Services Businesses • Businesses that receive incentives for the export of services 	<p>Incentives to improve facades and remodel commercial spaces already established in the CBD</p> <ul style="list-style-type: none"> • Includes incentives to improve the offer of products and services, or even internal fixes • Incentives to widen the commercial offer
<p>Development of green zones in the traditional urban center</p> <ul style="list-style-type: none"> • Recreation and congregation areas with the integration of pedestrian flow and educational centers • Linear urban walkway "green ring" 	<p>Connection with the Bayamon River Linear Park</p> <ul style="list-style-type: none"> • Maximize visitor impact in the urban center • Specialized consumer offers for these groups
<p>Development of a collaborative workspace in the CBD</p> <ul style="list-style-type: none"> • Locate the structure in the traditional center • Develop among various interest groups; potential projects in coordination with educational institutions, health centers, and flagship businesses of the Municipality (i.e. Goya, Coca Cola, etc.) 	

APPENDIX

INCUBATORS: SUCCESSFUL MODELS

A brief literature review reveals that some of the most successful incubator models are the following:

New Zealand: Incubator activity is somewhat recent. It began in 2001 with two incubators, and now there are 14. These are associated with an entity called *Incubators New Zealand*, and they receive financing for their operations principally through a government agency called *New Zealand Trade & Enterprise* (NZTE).¹⁴ They offer an ample array of programs and services that can be applied throughout the life-cycle of the business, from startups to established export businesses. The focus of NZTE is to only finance incubators that demonstrate results in the creation of businesses with high potential, job creation, or international markets, given that the domestic market is limited. Incubators with a more conventional and social focus are financed by municipalities, universities, or foundations. They have a rigorous evaluation system.

United States: The incubator system dates back to 1959, but its development really began in the decade of the seventies. It is in the United States where this model originated and strengthened. In 1980 there were 12 incubators. By 1990 there were more than 385, and today it is estimated that there are more than 1,300¹⁵. Just over half are of mixed type, and 37% are focused on technology, 6% in services, and 3% in manufacturing. Their system is characterized by models where there is rigorous evaluation of client needs, advisor networks, links to universities and high-tech centers, technology transfer programs, appropriated space, access to different financing mechanisms, and a permanent evaluation of the incubator.¹⁶

Israel: The incubator system of Israel dates back to 1991. They are supported by the Ministry of Industry and Commerce, which also closely regulates them. The emphasis of their programs is in technology businesses, especially software, telecommunications and internet, and bioscience. The incubators must fulfill the goals imposed in a centrally by the Ministry. Each eligible incubator is given a budget of between \$350,000 and \$600,000 for the first two years. Today there are almost 30 incubators supported by the government, with an inventory of more than 200 projects. The selection process is very rigorous, and they only accept ventures with R&D projects with a high potential in export business. Businesses are accepted for two years with the option to extend to three years in certain cases.

Barcelona: The innovation district of Barcelona, known as *Barcelona Activa*, has emerged as one of the most successful development spaces given its capacity to integrate the qualities of the city, its surroundings, the private sector, and the public sector. The initiative has combined the co-working space with professional training area, as well as entrepreneurial development and city promotion. A big part of its success in generating productive capacity has been in its active search for innovative talent within the public, private, and academic surroundings. In contrast with other incubators of the

¹⁴ Incubators New Zealand (2015), <http://incubators.org.nz/>; New Zealand Trade & Enterprise (2015), <https://www.nzte.govt.nz/>.

¹⁵ National Business Incubation Association (2014), *The History of Business Incubation*. en http://www.nbia.org/resource_library/history/index.php

¹⁶ See: National Business Incubation Association (2012).

state, *Barcelona Activa* does not limit the offer of its services to businesses of a particular size. Instead, it even offers shared space in for businesses that have not yet emerged.

INNOVATION DISTRICT

The concept of “learning regions” has been popularized in the literature on regional development¹⁷. This concept refers to the need for regions to build an infrastructure that foment learning and innovation. It is this same focus that constitutes what we may call the “innovation city” or “innovation district”.

In the case of the innovation district, this refers to a complementary model of urban and economic development composed of “geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators. They are also physically compact, transit-accessible, and technically-wired and offer mixed-use housing, office, and retail”¹⁸.

Literature on development has evolved over the years and with this evolution new interpretations emerge regarding the factors that define development. In the years immediately after the Second World War, the existence of natural resources was the focus, followed later by a theory that emphasized the availability of cheap labor. Today cities have the potential to develop their own competitive advantages, as these are centered on the quality of education, the existence of infrastructure, agility of governmental processes, technological and scientific capacity, and finally, conditions that allow for the creation of adequate policies to stimulate development. The competitive advantages no longer depend on the availability of a certain resource, proximity to the market, or cheap labor.

Another important change that has happened in the conceptualization of the process of economic development is the importance attributed to the mobilization of community resources, consensus building, participation, and the decentralization of functions. In this new way of viewing development, regions and citizens assume a much greater importance, as they are much more viable conditions in a regional and urban context than at a national level. In fact, another advantage related to gravitating towards an urban and regional model is precisely that ability to mobilize resources in a more effective manner than centrally organized processes.

These intrinsic changes to the development process do not operate in a vacuum. These new paradigms are products of the growing convergence of ideas, disciplines, changes in the market, and means of production. It consists of a network of innovative firms, entrepreneurs, general changes, new institutions, and the decentralization of information. In light of these events, cities as physical manifestations in space have been converted into places where all of these trends

¹⁷ R. Rutten & F. Boekema (2007) *The Learning Region*. Edward Elgar, UK

¹⁸ B. Katz & J. Wagner, *The Rise of Innovation Districts: A New Geography of Innovation in America*. Brookings Institution, 2014

connect. That is to say, what is local is more relevant than what is national or super-national, particularly as they are dynamics of change¹⁹.

Given that during the past years the principal innovations²⁰ have taken place among smaller scale institutions (product of the information revolution and the “horizontality” of information²¹), the very process of innovation has changed. What frequently occurred in industrial parks or through mass means of production has recently been replicated in open and collaborative small-scale spaces. The interaction of entrepreneurs, the interchange of ideas, and the capacity to provide friendly spaces has been essential for the creation of innovation districts.

In other words, the dynamic of local development incorporates aspects of revitalization and place making that in the past were seen as separate events. The new trends point towards the creation of open spaces that provide mixed uses with office and business, located in infrastructure that is compact, accessible, walkable, and technologically equipped. As such, urban centers have become the ideal space to carry out these transformations. This has been partially promoted by a new generation of innovators that demand better places to live, work, and entertain. The urban center is ideal in the sense that it maximizes social interaction, the use of time, collaboration, and accelerates the transfer of knowledge. Successful places must focus on the production of vibrant, dense spaces where co-production and co-development occur.

In concrete terms, proximity to academia and entrepreneurs is very important. This interaction is part of the innovator ecosystem²² that in the end is the new motor of economic activity. Experiences in other jurisdictions have demonstrated that the “app economy”, industrial design, graphic arts, architecture, small-scale manufacturing, among others, are the principal actors for this change. Within this framework of understanding some authors have popularized the term of the creative class in order to classify this highly diverse group in one single typology²³.

This group of innovators- many of them in the services industry- has demonstrated how urban areas with amenities for its residents and workers (e.g. bookstores, restaurants, cafés, local businesses, among others) are part of the conglomerate of incentives. This city, in conjunction with private investment, must seek to provide the infrastructure that stimulates collaboration and social interaction, such as parks, plazas, vibrant streets, micro-housing²⁴. As Jeff Speck explains in his book *Walkable City – “what do humans do? Work, shop, eat, drink, learn, recreate, convene, worship, heal, visit, celebrate, sleep: these are all activities that people should not have to leave downtown*

¹⁹ B. Katz & J. Bradley, *The Metropolitan Revolution, How Cities and Metros are Fixing or Broken Politics and Fragile Economy*. Brookings Institution (2014).

²⁰ The concept of innovation in this study is framed by the term popularized by the economist J. Schumpeter (1942) in his work *Capitalism, Socialism and Democracy*. New York: Harper and Roe Publishers.

²¹ C. Shirky, *Cognitive Surplus: How Technology Makes Consumers into Collaborators*. Penguin Books (2011)

²² Innovation as a concept cannot be perceived as something uniform. In its application it has different forms of creative activity. E.g. primary innovation – the creation of new enabling technologies; secondary innovation – product development for the adaptation, modification, substitution, and combination of enabling technologies.

²³ R. Florida. *The Creative Class and Economic Development*. *Economic Development Quarterly*. Vol. 28 No.3 (Aug. 2014)

²⁴ Concept of small scale private apartments, but with access to ample public space.

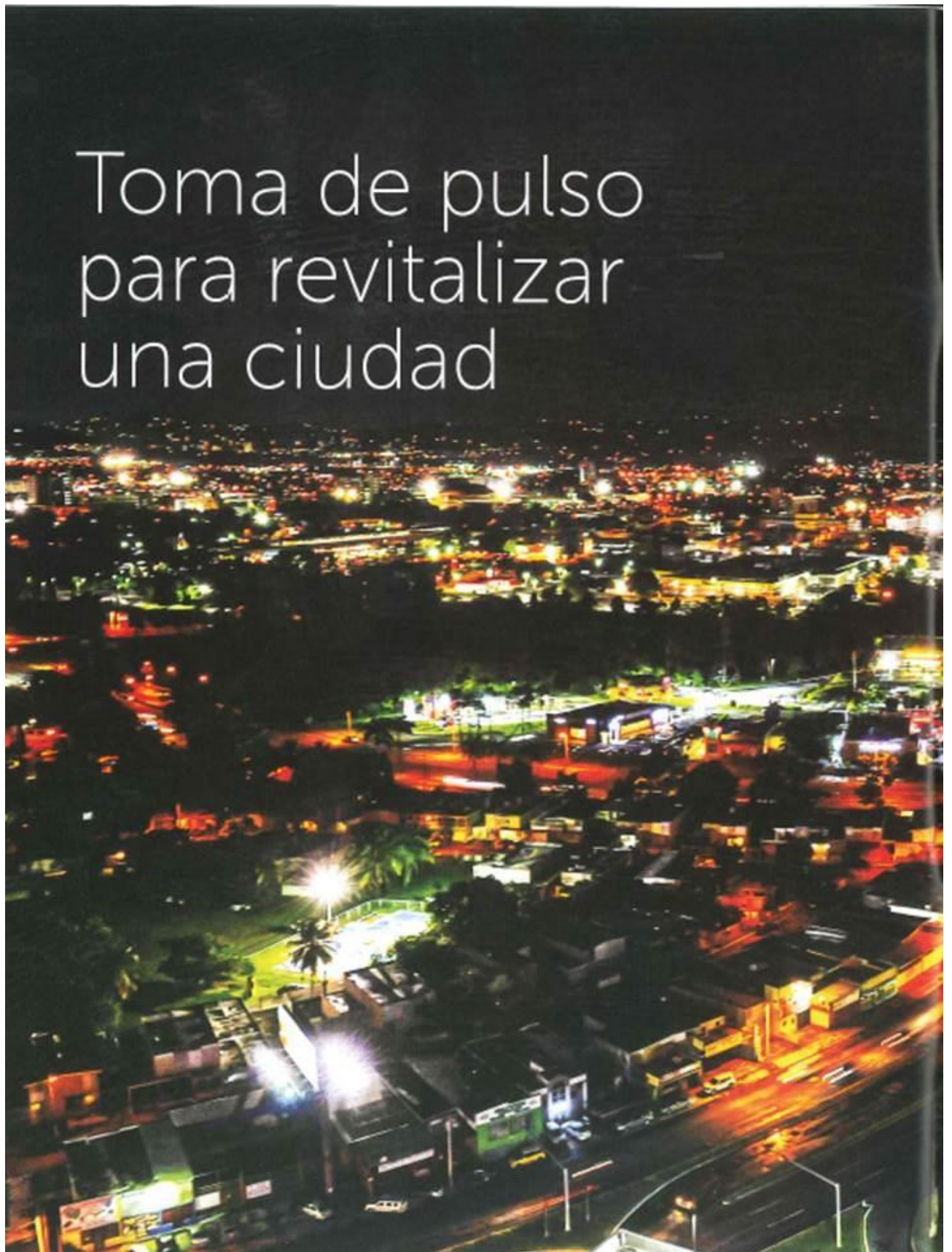
to accomplish."²⁵ More than just creating agreeable spaces, the goal is to concentrate economic activity and foment the convergence of firms, people, and those spaces.

The viability of this conceptual framework depends in large part on the proper institutional context. This implies developing institutions dedicated to the promotion, collaboration, development, and sustainability of the area. These efforts combine the input of academia, the private and public sector, and the local context. In addition, central to the project is the production of new economic activity through entrepreneurship and experimental activity.

The growth that they these initiatives seek to catalyze has an element of inclusion for low-income residents and the existing economic activity. Both sectors benefit from the spillover effects of the new economic activity.

²⁵ J. Speck. *Walkable City: How Downtown can save America, one step at a time*. North Point Press (2012).





Fotos: Francisco Aulet / Ciudad de Bayamón



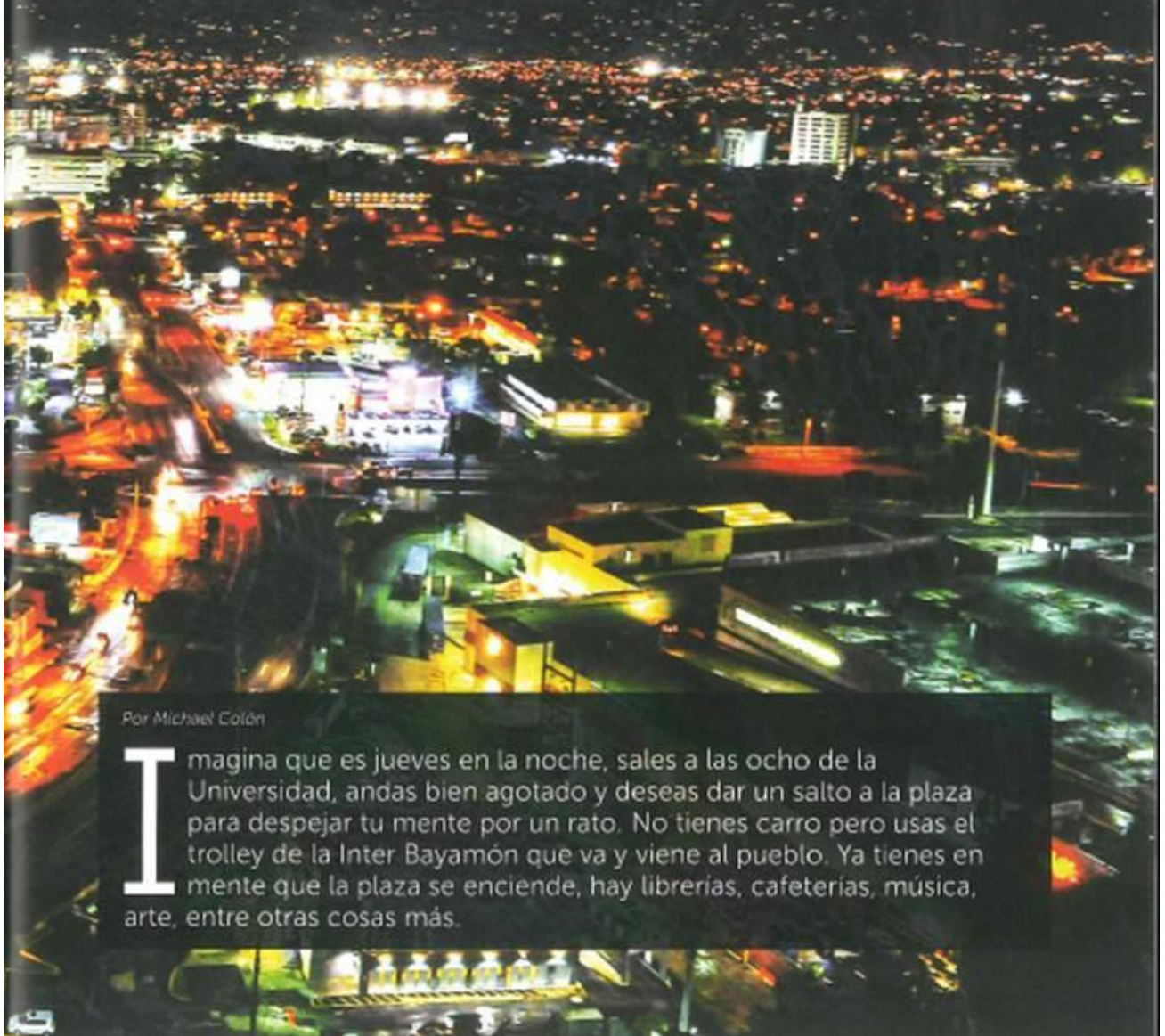
Paseo Lineal



Casco urbano



Plaza del Mercado



Por Michael Colón

Imagina que es jueves en la noche, sales a las ocho de la Universidad, andas bien agotado y deseas dar un salto a la plaza para despejar tu mente por un rato. No tienes carro pero usas el trolley de la Inter Bayamón que va y viene al pueblo. Ya tienes en mente que la plaza se enciende, hay librerías, cafeterías, música, arte, entre otras cosas más.

Toma de pulso para revitalizar una ciudad

Esta podría ser la nueva ciudad del chicharrón, Bayamón. El llamado pueblo vaquero busca convertir los espacios públicos de un distrito de la ciudad, en lugares comunitarios y comerciales con una vida diurna y nocturna vibrante, similar al uso de los espacios públicos de La Rambla en Barcelona, Quincy Market en Boston, el San Antonio Riverwalk en San Antonio, Texas, Melbourne en Australia o el Parque Central de Miraflores en Lima.

Para llevar a cabo la transformación de la ciudad, el Municipio ha iniciado el proceso con un censo de necesidades que lleva a cabo con fondos del U.S. Economic Development Administration y que comisionó a la firma Estudios Técnicos con el apoyo del Departamento de Administración de Empresas del Recinto de Bayamón de la Universidad Interamericana de Puerto Rico. El Recinto tiene un acuerdo de colaboración con el Municipio y para esta ocasión, dos profesores, Mario Signoret y Grace Di Leo, dirigieron los trabajos de cinco estudiantes, quienes llevaron a cabo entrevistas en el casco urbano.

"El punto de partida para desarrollar un concepto es identificar los talentos, las perspectivas y las potencialidades de la comunidad. La participación de la comunidad en elaborar la concepción de futuro genera sentido de pertenencia", explicó Eileen Poueymirou, directora de la Oficina de Planificación y Administración Federal de la Ciudad de Bayamón.

"Bayamón es una ciudad cambiante y se está transformando", relató Roberto Morales, uno de los estudiantes investigadores que participó del estudio. Su trabajo consistió en entrevistar a comerciantes del casco urbano y comercios limítrofes para conocer y documentar sus necesidades, metas y aspiraciones. Como resultado, la visión del estudiante del Departamento de Informática que realiza una concentración menor en Desarrollo Empresarial y Gerencial, se enriqueció hasta el punto que estableció relaciones interpersonales con varios de los comerciantes entrevistados. Además, le ayudó a expandir su conocimiento sobre los negocios, conocer directamente los procesos de investigación, el trabajo de campo, y cómo llevar a cabo proyectos urbanos que tienen varias fases, sobre todo que toman en cuenta el pulso de la comunidad.



El Distrito

El estudio se concentra en lo que se ha llamado el Distrito Central de Bayamón. En el Distrito se concentra el mayor flujo de personas y el motor económico del Municipio. El Distrito cuenta con una gran concentración de servicios educativos, hospitales, médicos, actividades culturales y recreativas. Es visitado frecuentemente por personas locales y turistas.

"El estudio persigue que de la actividad económica, surjan otras oportunidades de desarrollo", explicó Poueymirou. Entre esas actividades, se busca que las personas se muden a la ciudad, se creen nuevos comercios, nuevas ofertas recreativas, entre otros.

A través de esta investigación se tiene la ambición de identificar aquellos competidores de negocios con el mayor potencial para crear empleos y desarrollar la expansión de negocios ya existentes. Uno de los sectores que se explora es el desarrollo de un eje de negocios de videojuegos y firmas de tecnología.

Los fundamentos de la revitalización: Placemaking

El proyecto de revitalización del Municipio propone utilizar los fundamentos de planificación urbana del movimiento llamado Placemaking, que tuvo su raíz en los años sesenta con los trabajos de dos influyentes escritores de temas urbanos, Jane Jacobs y William H. Whyte. Ambos abogaban por una planificación urbana que tomara en cuenta la comunidad, la gente.

Este movimiento se dio a conocer bajo esa

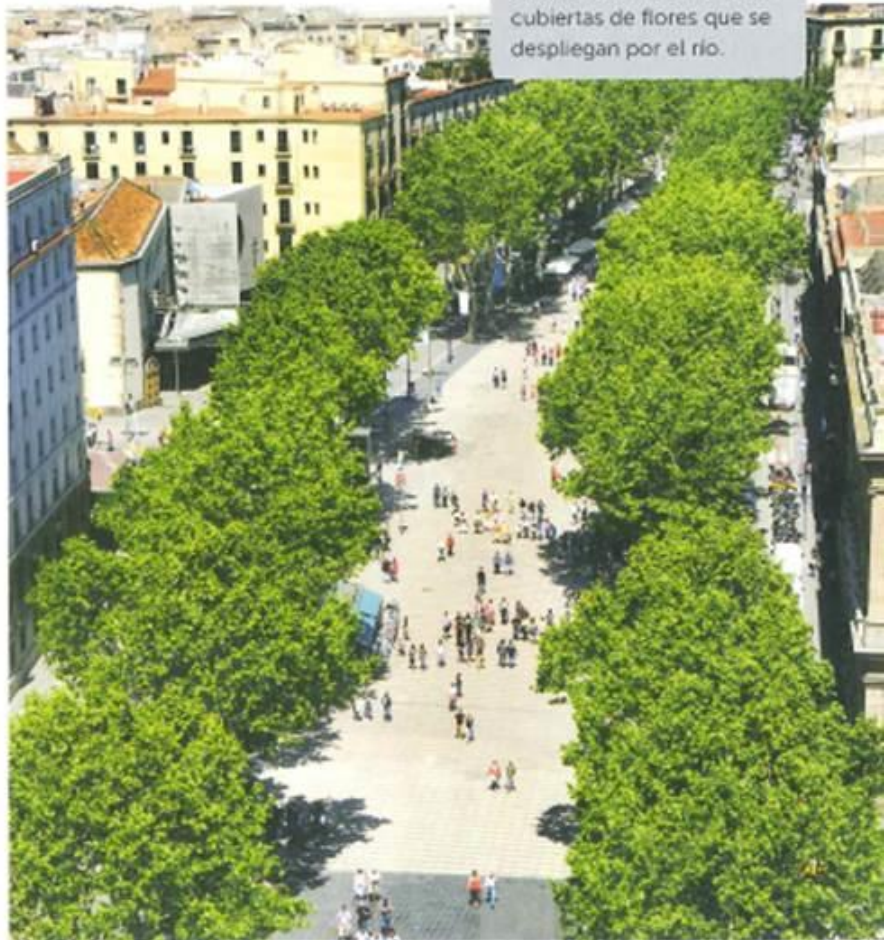


San Antonio River Walk

Este paseo, que también se conoce como el Paseo del Río, bordea el río San Antonio corta distancia del centro de la ciudad. El paseo peatonal está lleno de restaurantes y comercios que atraen el público y conecta con calles que llevan a otros atractivos turísticos como El Alamo, el Museo de Arte de San Antonio y mucho más. Durante la Fiesta de San Antonio hay una parada de embarcaciones cubiertas de flores que se despliegan por el río.

La Rambla, Barcelona

A lo largo de sus 1.2 kilómetros, no hay duda que La Rambla es el paseo peatonal más transitado de Barcelona. Es un imán para turistas y para residentes de todas las clases sociales. Se delineó en 1766 siguiendo las paredes de la ciudad medieval, convirtiéndose así en el único espacio ancho y amplio para caminar por lo cual fue acogido de inmediato. En el camino está el teatro de ópera, el espectacular mercado de la Boquería, está a pasos del Palau de la Música y al final el mar y el Mirador de Colom. Sobre el paseo está el mercado de flores y plantas, comercios, artistas y mimos.



Toma de pulso para revitalizar una ciudad

terminología a mediados de la década de los noventa. Desde entonces, más de 3,000 comunidades en todos los estados de Estados Unidos y en 43 países han trabajado con el acercamiento de Placemaking, según el Proyecto de Espacios Públicos (www.Pps.org).

Bajo este movimiento, no hay que empezar con grandes presupuestos. Por ejemplo, se mejoran las calles como lugares públicos diseñados para la gente y no para carros y tráfico, explica el portal de la Ciudad de Bayamón. Y así también lo mira el Municipio. "El issue no es el dinero. La participación y el entusiasmo moverá las iniciativas necesarias para el logro", según ha presentado Poueymirou.

La experiencia de los estudiantes y profesores con el estudio

La Revista INTEResante le preguntó al profesor Mario Signoret sobre la importancia del estudio y nos dijo: "Trabajar en el proyecto es una puerta para la experiencia práctica, otros lugares se quedan en lo teórico. En los últimos años los negocios han cambiado y la competencia ha sido

ardua por la competencia multinacional y mundial a través de Internet. Los centros antes eran dinámicos, ahora son fragmentados. Antes los pueblos solían ser híbridos; es decir, tenías todo en un mismo lugar. Ahora está separado. Por ejemplo, cuando hablas de bancos pensamos en Hato Rey por la zona bancaria de la Milla de Oro. Cuando pensamos en entretenimiento nos viene a la mente San Juan", explicó.

Otro estudiante que participó en el estudio del Distrito Central de Bayamón fue Iván Nevares, quien recientemente se graduó con un bachillerato en Finanzas. Al igual que Roberto, también caminó bajo el sol y recorrió el centro urbano para recoger el sentir del pueblo. Su relación con los comerciantes estribó en discutir los problemas del centro y qué necesitaban. Algunos de los retos identificados por el estudiante incluyeron la necesidad de lograr la inserción de la juventud en la fuerza laboral, atraer residentes para activar una vida nocturna, buscar conectar el tren con el transporte colectivo para fomentar su uso y disminuir la congestión vehicular.

Los resultados del estudio servirán para moldear





De izquierda a derecha: Estudiantes y Eileen Poulymrou caminan por el casco urbano y presentación a comerciantes.
Foto inferior: Redactor de la revista INTERÉS ante entrevista a estudiante y profesores participantes del estudio.

los proyectos que crearán espacios públicos que le devuelvan al centro de Bayamón ese encanto humano y comercial que caracteriza al centro de toda ciudad vibrante y vanguardista. El objetivo primordial de avivar el pueblo es resaltar la experiencia de peatones y crear una conexión exitosa entre la ciudad, los nuevos proyectos y los futuros desarrollos.



**MEMORANDUM OF UNDERSTANDING
BETWEEN THE
INTER AMERICAN UNIVERSITY OF PUERTO RICO, BAYAMON CAMPUS,
AND
MUNICIPAL GOVERNMENT OF BAYAMON**

THIS MEMORANDUM OF UNDERSTANDING is made by the Inter American University of Puerto Rico, Bayamón Campus (IAUPR-BC), here represented by Manuel J. Fernós, President, and Juan F. Martínez, Chancellor; and the Municipal Government of Bayamón, (BAYAMON), here represented by its Mayor, Ramón Luis Rivera Cruz.

WHEREAS, IAUPR-BC and BAYAMON are aware that high quality education, training, research, development, knowledge dissemination, technology transfer, service, and outreach are the basis for the economic well being and development of Puerto Rico;

WHEREAS, IAUPR-BC and BAYAMON are moved towards a better understanding of the issues related to the advancement of knowledge, and the development of human resources as basic elements necessary for addressing economic development;

WHEREAS, IAUPR-BC and BAYAMON are interested in establishing close ties in research and development of entrepreneurial activity as a means to spur economic development;

WHEREAS, IAUPR-BC and BAYAMON are concerned with the present levels of unemployment and the limited opportunities that Puerto Rico offers, in contrast with the thought that emigration can represent a potential key to individual success, especially for graduates seeking careers in technology;

WHEREAS, IAUPR-BC and BAYAMON recognize that the Bayamón Central District (BCD) is a desirable location where a Technology Cluster can excel and as well propel the establishment of new business in the area;

WHEREAS, IAUPR-BC and BAYAMON understand the benefits of spatial organization following the business cluster theory, in supporting and promoting economic activity;

WHEREAS, collaboration between the two institutions which share economic and human development goals, is highly desirable;

NOW, THEREFORE, in consideration of the mutual understanding set forth, the Parties do hereby mutually agree as follows:

I. PURPOSE

- a. This Memorandum of Understanding is intended to facilitate interactions and cooperative initiatives between IAUPR-BC and BAYAMON in the areas of research, development, design, technology transfer, human resources development, and education.
- b. This Memorandum of Understanding sets forth a basis for future agreements between IAUPR-BC and BAYAMON, to initiate and conduct a joint program to promote IAUPR-interdisciplinary communication, cooperation, and collaboration to promote new business, entrepreneurial and job opportunities. The program will emphasize in collecting data, evaluating and sharing ideas that can support the formation of a technology cluster in the BCD. Among activities are the participation of students from IAUPR-BC in guided activities organized in collaboration between the IAUPR-BC Business Faculty and the BAYAMON Planning Office for: the assessment of resources, examining strengths, weakness, threats.



opportunities at the BCD context, discussing ideas for project implementation, resource management and financing alternatives, as well the possibility of engaging in conjunct efforts to prepare proposals so fund new related activities. The student participation will take place within an academic framework and an on the job learning experience.

II. IMPLEMENTATION

The intent of this Memorandum of Understanding shall be implemented by collaborative planning, development, proposals, and the implementation of joint interdisciplinary programs in areas of education, training, research, development, commercialization, and dissemination of knowledge. IAUPR-BC and BAYAMON will appoint Francisco Montalvo, Director of the Business Faculty of the IAUPR-BC, and, Eileen Poueymirou Yunque, PLP, Director of the Planning and Federal Administration Office at the Municipality of Bayamón, as project managers in charge of implementing this MOU, respectively. Future MOU managers will be appointed by mutual agreement.

III. SUPPLEMENTAL AGREEMENTS

This Memorandum of Understanding may be supplemented by agreements for specific projects by authorized representatives of IAUPR-BC and BAYAMON. Each agreement shall specify: a) Objectives; b) Implementation plan; c) Responsibilities of each institution; d) Budget and funding sources; e) Timetables and evaluation criteria; f) Non-disclosure and intellectual property agreements and; g) When applicable, the costs apportioned to each institution.

IV. OTHER TERMS AND CONDITIONS

- a. IAUPR-BC and BAYAMON shall be responsible for their respective costs associated with the activities in this Memorandum of Understanding. Payment for cost associated with future agreements will be subject to negotiations between IAUPR-BC and BAYAMON.
- b. Nothing in this Memorandum of Understanding shall obligate IAUPR-BC and BAYAMON, individually or collectively, to any current or future expenditure of resources in advance of the availability of appropriations through their respective fiscal authorization procedures.

V. PERIOD OF AGREEMENT

This Memorandum of Understanding shall be effective immediately when signed by authorized representatives of both IAUPR-BC and BAYAMON, and shall remain in force for three (3) years from that date unless terminated according to the provisions of paragraph VIII below. This Memorandum of Understanding shall be renewable for additional time period as mutually agreed upon by representatives of IAUPR-BC and BAYAMON.

VI. EQUAL OPPORTUNITY

IAUPR-BC and BAYAMON subscribe to the policy of Equal Opportunity and will not discriminate on the basis of race, sex, age, political orientation, ethnicity, religion, or natural origin. IAUPR-BC and BAYAMON shall abide by these principles in the administration of this Memorandum of Understanding, and neither entity nor any of its representatives shall knowingly impose criteria for the exchange of scholars, staff, or students that would violate the principles of nondiscrimination.

VII. MODIFICATION

This Memorandum of Understanding may be modified only in writing by authorized representatives of UPRM and BAYAMON. Modifications shall be incorporated by reference and made a part of this Memorandum of Understanding.



VIII. TERMINATION

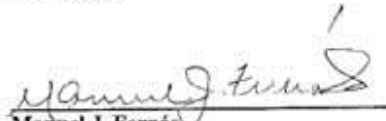
This Memorandum of Understanding may be terminated at any time by written mutual agreement or upon 90 days advanced notice by either Party.


IX. SIGNATURES


Between

The Inter American University of Puerto Rico, Bayamón Campus (IAUPR-BC)
and
the Municipal Government of Bayamón (BAYAMON)

Approving for their respective agencies on this 16 day of October of 2013, at Bayamón, Puerto Rico.


Manuel J. Fernós
President
Inter American University of Puerto Rico
Bayamón Campus


Ramón Luis Rivera Cruz
Mayor of Bayamón
BAYAMON Municipal Government


Juan F. Martínez
Chancellor
Inter American University of Puerto Rico
Bayamón Campus

Ramón Luis Rivera Cruz
Mayor of Bayamón
BAYAMON Municipal Government

