

ULI Case Studies

Bonifacio Global City (BGC), Metro Manila, Philippines



BGC is a successful master-planned high density mixed-use development project in Metro Manila, the Philippines.

Summary of Bonifacio Global City

The Bonifacio Global City (BGC) story began in 1995 when investment holding company Metro Pacific acquired a 150-hectare site through public auction. Then part of Fort Bonifacio and the former home base of the Philippine military, BGC is strategically located in the heart of Metro Manila, 5 km east of the main Makati CBD. Fort Bonifacio Development Corporation (FBDC), a company set up for the development of BGC, is owned 55 percent by the private sector and 45 percent by the government's Bases Conversion and Development Authority (BCDA). It was the country's first successful Public-Private Partnership (PPP). At the time, the land sale was the most expensive in the

country at over 32,000 pesos per square meter of gross floor area (GFA), or approximately 384 billion pesos (US\$15 billion).

The first few years of operations for FBDC proceeded smoothly, with the inception of an ambitious master plan and construction of high-quality infrastructure including water, sewage, gas, electrical, and telecommunications underground utilities, as well as land development and a road network. It also raised approximately 27 billion pesos in 1996 through the sale of smaller land parcels, far exceeding expectations.

However, progress slowed after the 1997 Asian Financial Crisis, which severely affected Metro

QUICK FACTS

Location

Metro Manila, the Philippines

Project type

High density mixed-use planned community

Site size

150 hectares

Land uses

Residential, office, hospital, school, retail, parks, museum, hotel

Key words

Public-private partnership (PPP) project, office building, CBD, master planned community, grid-based street network, interceptor parking lots, retail and entertainment promenade, two-story temporary buildings, livable neighborhood, worker's dormitories, density-controlled environment, pedestrian arcades, bus monitoring and management system, pedestrian friendly design, public building and parks, sports facilities, cultural and arts-based activities, green and walkable environment

Website

<https://bgc.com.ph/>

Developer

Fort Bonifacio Development Company

Project Manager

Bovis



BASES CONVERSION AND DEVELOPMENT AUTHORITY (“BCDA”)

In 1991 the Philippine government decided not to renew leases of military bases in the Philippines such as Clark Air Force Base and Subic Bay Naval Base to the US military. BCDA was established in 1992 by the BCDA Act of 1992 and took control of development of certain military bases including the former US military bases for private sector use. Fort Bonifacio was picked as the first development project of BCDA in connection with the development of the eventual development of Clark Air Force Base, located about 200 km north of downtown Manila. Originally, BCDA developed a high level master plan of around 400-hectare area covering the current BGC, McKinley Hill, and other areas of Fort Bonifacio. While 214 hectares were sold in an open auction in 1995, BCDA was able to transfer only 150 hectares to Fort Bonifacio Development Corporation (FBDC) as the clearance of the remaining 64 hectares of land had not been completed. Fort Bonifacio was the first development project by BCDA, and BCDA is currently engaged in the development of Clark Air Force Base.

Evolution of initial master plan

From the beginning, Metro Pacific and its consortium partners set an ambitious goal to build a world-class central business district (CBD) that would be a draw for regional headquarters of multinational corporations (MNCs). The plan laid down a Floor-to-Area Ratio (FAR) of 8, or around 12 million square metres of GFA on completion, featuring a wide range of uses including residential, office, retail, together with institutions such as schools and museums.

To achieve this, the consortium leveraged foreign expertise to guide them through the initial planning process. Shortly after land acquisition in 1995, the planning advisory team took a group of executives and representatives of consortium members on a



View of Bonifacio Global City from the adjacent US military cemetery



Street view during morning commute hour

fast-paced study tour of six cities, including London (Canary Wharf), Paris, Barcelona, New York, Minneapolis, and Los Angeles. The tour provided participants with opportunities to observe global best practices, learn from challenges of master-planned community developments, and form their own views and preferences with respect to urban planning.

Following the tour, the planning committee conducted two rounds of “Delphi” polling sessions that were designed to discover the preferences of consortium members. The polling sessions were conducted with the external planning leader raising questions and participants then voting electronically without any discussion. Each consortium member had an equal vote regardless of their equity ownership percentage. After the first round, a development concept was formed based on the polling results, and after the second round, the planning lead wrote a development brief that established key requirements for the designated planning firm Hellmuth, Obata + Kassabaum (HOK).

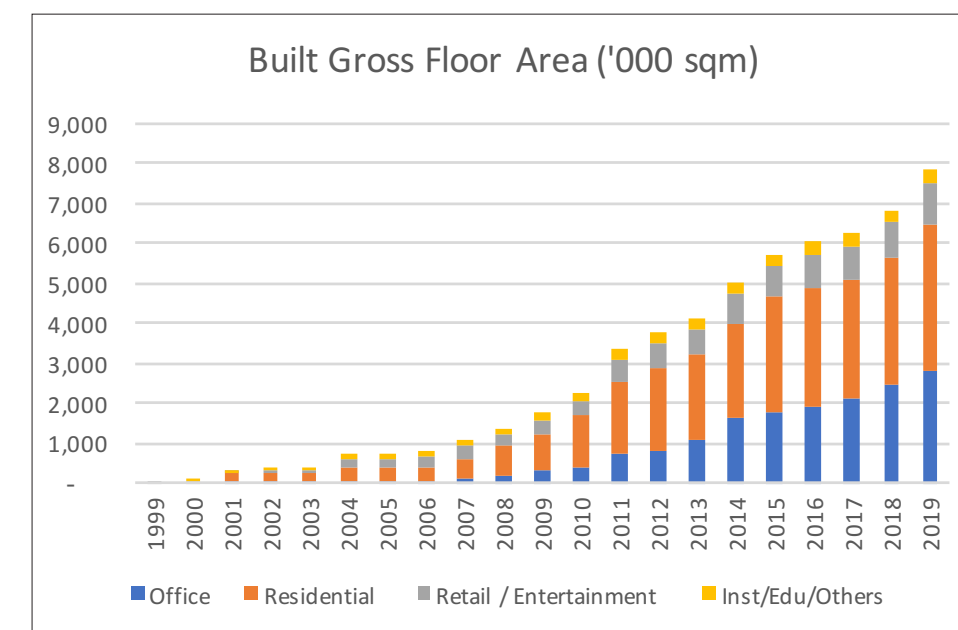
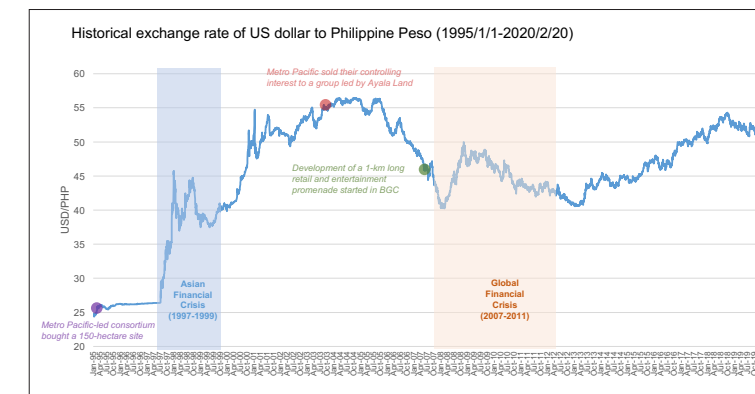
Initial years and Asian Financial Crisis

The first few years of FBDC's operations were productive, with several joint venture (JV) companies established with leading global groups. These included a JV with Veolia Water, the world's largest supplier of water services,

and another with Bovis Lendlease for project management. The initial land sales in 1996 brought in around 27 billion pesos [US\$ 1 billion at the prevailing exchange rate], with many consortium members also buying plots.

In 1997, however, the project and its consortium members were severely affected by the Asian Financial Crisis. Initially assuming

the crisis would be short lived, FBDC continued to build infrastructure and incur substantial operational expenses. In addition, many consortium members who had purchased plots



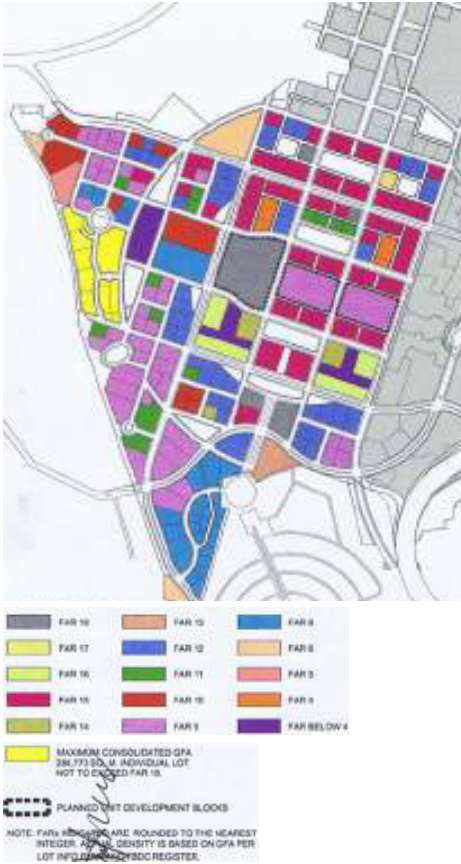
in the 1996 land sales were hit by the devaluation of the local currency. Unable to make payments or additional equity contributions, they opted to transfer their lots to other investors. Ultimately, in the depths of the country's economic crisis in 2003, financial constraints forced Metro Pacific to sell their controlling interest to ALI and EHI.

From 2003 to today

With ALI and EHI now at the helm of BLC, FBDC substantially revised key items in the master plan. Perhaps the most significant and visible of these was the replacement of the original concentric street network in BGC's city centre with a grid-based system. According to interviews with FBDC management, use of a concentric street network meant that the shape of land plots was irregular and therefore difficult to develop. In addition, it was unable to absorb vehicular traffic as efficiently as a grid-based system. In the revised plan, individual land lots became rectangular in shape and were reduced in size to plots averaging around 1,600 to 2,000 square metres. Another change was the abandonment of a planned tram, which was considered too expensive and impractical. Mass transport provided by privately-run BGC Buses became the preferred option. An interceptor parking lot on the periphery of BGC was also added and is currently in the planning phase.

In addition to revising the master plan, FBDC prioritised development of a kilometer-long retail and lifestyle boulevard, starting in 2007 that stretched from Market! Market! to The Mind Museum. The proposed boulevard featured brand stores and food and beverage outlets set in a vibrant park with interactive artworks. High-end offices would occupy its upper floors. The boulevard has yet to be developed as originally conceived, however, due to lack of transport infrastructure and low demand for office space in the initial stages of the project. What was therefore originally planned as an epicentre superblock featuring BGC's highest skyscrapers is currently a series of single, two- to three-story interim buildings running along a linear green and open space. Known as Bonifacio High Street, this retail

Development density



promenade quickly became popular with residents and workers in the area, even attracting visitors from nearby communities. It has been credited with priming and energising the entire area, thereby boosting potential development interest in BGC.

Over the past 13 years, BGC's development has been so rapid that it now rivals Makati as the country's leading CBD. Currently, it has over 7.8 nearly 8 million square meters and office use representing 3.7 million and 2.8 million square meters respectively. With nine international schools, two five-star hotels, three business hotels, and a 630-bed high-quality hospital, as well as a significant number of retail shopping centres, urban parks and sporting facilities, BGC enjoys a full range of amenities. It is unmistakably a highly functional "work, live, and play" community.

The Future

BGC still has another 4 million square metres of GFA waiting to be developed. As the project

Zoning plan



Pedestrian system plan



Arcaded street which is common throughout BGC

matures, FBDC continues to make adjustments to meet the changing needs of a young, dynamic market. Currently, a number of workers' co-living dormitories have been newly built for young professionals who have yet to buy their own properties locally and face long commutes as a result of congestion in Metro Manila. Also, FBDC is evaluating construction of a BRT line, an interceptor parking lot in the northern part of the site, and creation of a one-way street system. Moreover, according to the government's plan, BGC will be connected to the country's first subway line that is due to be constructed in the next few years.

Four key goals of FBDC

FBDC's four key goals and specific details of how they were accomplished are set out below.

1. Invest in a neighborhood

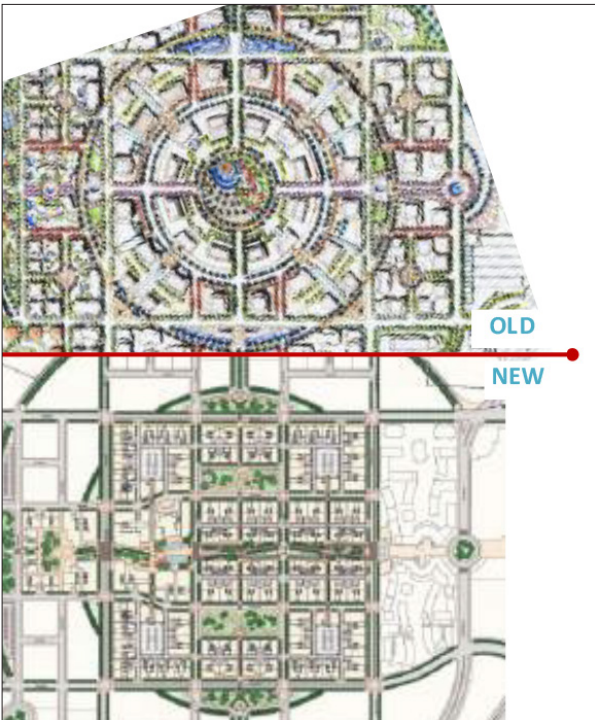
- Density-controlled environment:
 - FARs range from 6 to 18.
 - Retail components are allowed only up to a maximum FAR of 3 for mixed-use lots.
 - Buildings with residential components must have a minimum FAR of 4.

-Zoning plan

- Residential zones are located on the west side near Forbes Park and Manila Golf, a quiet area with good views on the western side.
- Most active parts are along High Street.
- Open spaces and landscaped areas are evenly distributed.

-Pedestrian system plan

- BGC has an on-grade pedestrian network wherein certain developable lots are required to place pedestrian arcades at certain locations.
- For the purposes of maintaining uniformity throughout BGC, arcades follow certain design criteria.



The street system in initial and revised master plans for the central area of BGC

-Vehicular access plan

- Locations of curb cuts on each developable lot are designed to minimise impact on both the streetscape and traffic.
- Curb cuts normally not located within 12 meters of an intersection.

Underground utilities masterplan



2. A city that works

-Underground utilities

- All power, telephone, and fibre-optic cable lines are located underground.

-Drainage system

- Leveraging the natural contours of the site, rainwater is directed to its two lowest points and then to the nearby Pasig River.
- An underground drainage detention structure was built that can hold up to 22 million litres of water. This is then gradually released to the Pasig river to prevent flooding.

-Water and sewage system

- Managed by Bonifacio Water, the system comprises four water tanks ranging from 3 million litres to 29 million litres.
 - The wastewater system consists of a treatment facility located outside BGC.
- Power system
- Includes four substations spread around the periphery of BGC to ensure continuous supply.

-Traffic and neighborhood monitoring system

- Includes CCTV and a traffic monitoring network.
- Bus monitoring and management systems tracks all buses, providing arrival and other information to passengers and optimising bus deployment.

-Estate Services

- Each lot buyer automatically becomes a member of BGC Estate Association. Property management is handled by Bonifacio Estate Services Corp.



Scenes of Bonifacio High Street

3. Designed for people, with open space and active street life prioritised

-Mixed-uses

- Over 15,000 residential units.
- A long list of leading global firms as office tenants.
- Nine international educational institutions.
- State-of-the-art 630-bed St. Luke's Hospital.
- Hotels (Shangri-La, Grand Hyatt, Ascott, Seda).



-Revised master plan

- Provides a more pedestrian-friendly design and improved traffic circulation, creating more regular-shaped as well as smaller land plots.
- 3X3 grid system at the city centre provides efficient and easily understandable vehicular traffic circulation.
- East-west pedestrian access through Bonifacio High Street.
- Around 34 percent of total area devoted to open space that is strategically distributed within the city

-Key public buildings and parks

- Performing-arts theatre with 500 seats.
- Central Plaza and Amphitheatre.
- Terra 28th, a family-oriented park.

-Bonifacio High Street

- One-kilometer promenade consisting of continuous low-density retail and entertainment with green open space in the middle.
- Easily accessible on foot from all parts of BGC, High Street is the main centre of activity.
- At the western end of High Street is Mind Museum, a LEED Gold-certified science museum.

-Sports facilities

- Track 30th and Turf BGC, the country's first

artificial turf soccer field open to public.

- BGC Greenway: located along the western boundary, it forms a 1.6 km-long public space for walking and jogging, as well as providing safe evacuation areas.

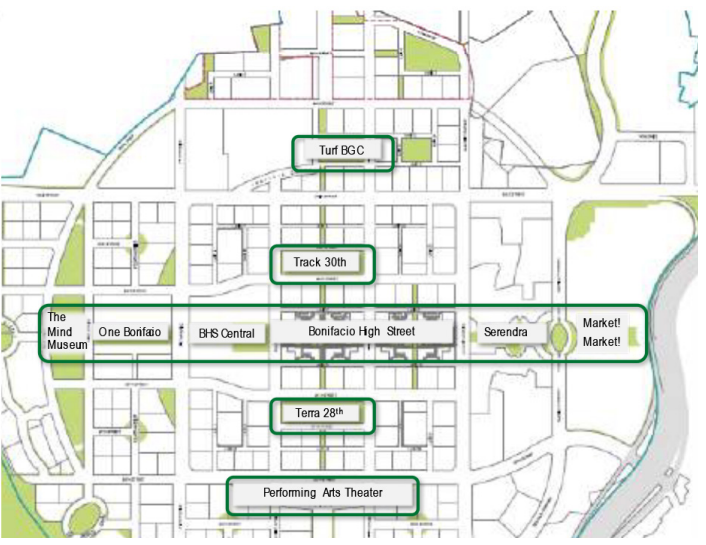
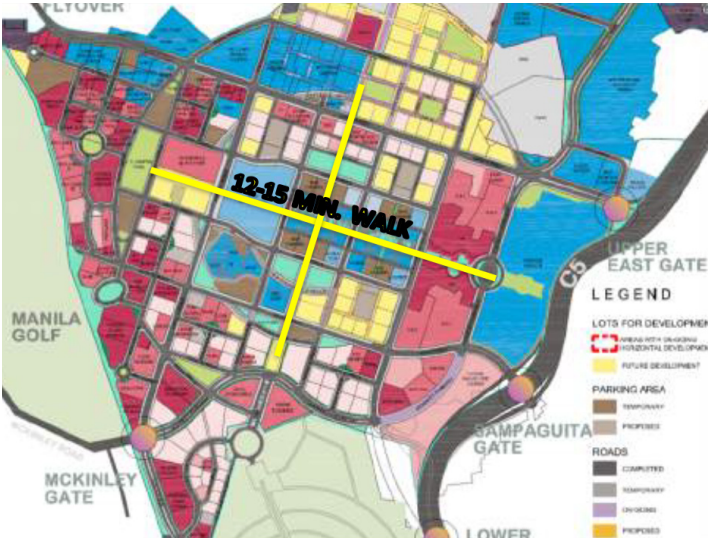
4. A city with a soul

Bonifacio Art Foundation Inc. runs a range of cultural and arts-based activities. The foundation's most important contribution has been construction of the BGC Arts Center – the area's first stand-alone flexible theatre – that now serves as BGC's centre for arts and culture. The Centre can accommodate an audience of 500 and features retractable seats and a landscaped amphitheatre that serves as both a public park and an outdoor performance and events venue. The foundation has also funded a public arts programme that has created over 60 public artworks throughout BGC, making it a truly Instagram-worthy city.

Key challenges

The previous use of the site as a military base posed a number of challenges. First, there was limited road access to adjacent areas, requiring heavy investment in construction of access roads during the project's initial phase. Second, discovery of buried ordinance in unexpected parts of the site meant construction was often halted.

A limited local talent pool was cited as



Location of key facilities along the central area

another key challenge by a number of interviewees. With the consortium setting high standards for the finished product, it needed to hire a large number of foreign experts and form joint ventures with leading global companies to ensure goals were met. As a result, costs were significantly higher than if it had hired talent locally. This created significant financial pressure, especially during the Asian Financial Crisis, when land sales came to a halt.

The relative inexperience of the controlling shareholder, especially in the area of retail property development, was also mentioned as a key challenge. One developer with multiple projects in BGC mentioned that construction of a good shopping centre in the initial years would have not only created a convenient facility for residents and workers but also been a visible confidence boost for potential investors.

Lastly, some interviewees mentioned that although the built area under control of FBDC has maintained high standards and adhered to strict design and construction guidelines, development of plots in surrounding areas has not always met the same high standards.

BGC's current success was due to the following factors:

--The original owner group adopted an ambitious plan featuring a defined set of

*principles that called for the project to be mixed-use, human-oriented, dense with usable open space, and feature high-quality design and construction guidelines.*It was evident from the start that

both the consortium and FBDC executives had ambitious aspirations to develop BGC as a high-quality CBD site that would attract MNCs. Various interviewees involved in the project from its early years also expressed positive



Park below which the main rainwater detention tank is buried



Walkable street

aspirational goals, such as: “BGC: Life as it should be”, or “Land is not inherited from our forefathers – rather, it is borrowed from our children.” Many interviewees said that the six-city international study tour for a group of key executives and representatives of the consortium was critical to formulating the master plan. Subsequent discussion sessions led by experienced outside planning professionals were also important, while the creation of detailed design and construction guidelines ensured that high and uniform standards in terms of design and construction were met.

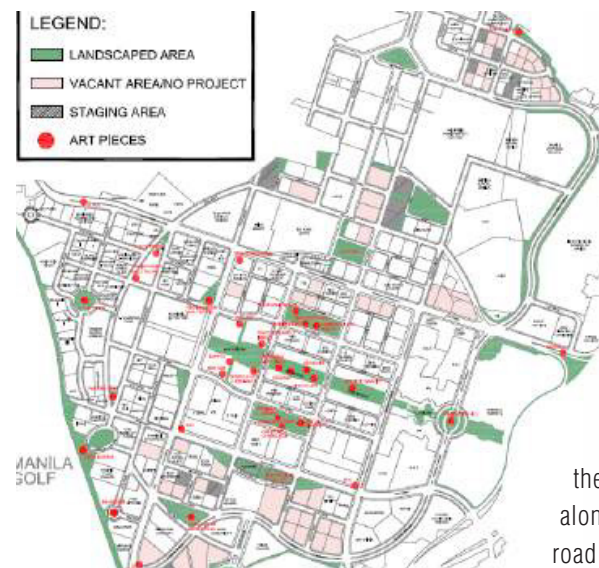
-The Philippine government played an important role by setting clear objectives for BCDA, including using land productively and the creation of jobs and supporting infrastructure: BCDA did not



Green Walkway



Public art work



want to create another exclusive low-density residential neighborhood like the adjacent Forbes Park. Prior to the land sale to the initial consortium, it therefore performed a study setting out initial goals including a mandate for mixed-use and high-density facilities. Also, BCDA facilitated and partly funded construction of access roads such as the fly-over to Makati and a ramp along C-5 that is now the main access road along the eastern border of BGC.

-The takeover of FBDC by ALI and EHI led to an infusion of capital, better operational experience, and a revised master-plan well suited to the local context: A number of interviewees credited the new leadership of FBDC for the success of BGC. One of the key changes to the original master plan was the replacement of the original concentric street form in the centre of BGC with a grid pattern. One developer commented that the concentric street form created irregular plots that were difficult to use in terms of design and construction, especially for unsophisticated developers. Also, large plot sizes (at an average 3,000 square metres),



Night scene in an arcaded space of an office tower.

made land too expensive for mid- and small-sized developers. The implementation of a street grid and the subsequent reduction of lot sizes, together with the strong reputation of the new consortium leader, strengthened market confidence, boosted land sales, and led to greater vitality.

-The creation of Bonifacio High Street, a retail and lifestyle boulevard in the centre of BGC, has significantly energised the area and helped position it as an alternative to existing CBDs: Built in 2007, Bonifacio High Street is a retail promenade in the heart of BGC running from east to west. The basic form of Bonifacio High Street is two rows of one- and two-story buildings, mainly for retail and food and beverage use, with green open space in the middle. With 142,000 square metres of GFA, it is the most recognised and visited area within BGC. Protection from tropical sun and rain is provided by trees and awnings that shelter the wide sidewalks, with regularly-spaced green areas serving as venues for many cultural, musical, and active lifestyle activities.

-An active community development programme has been fostered by the estate service company: As one interviewee it: “We cannot live in a city of gold in a city of poverty”. To reach out to the wider community, the consortium has put an emphasis on engaging the whole spectrum of society in activities within BGC. On any given day, a number of local events are likely to be in progress, including as street concerts, food



Market! Market! Main transportation hub in the eastern end of BGC

festivals, or art shows. Also, many high-quality public art works and murals are featured on the sides of BGC buildings, funded by Bonifacio Art Foundation Inc. (BAFI), which in turn is backed by a certain portion of land sale proceeds. BAFI has also built a world-class science museum as well as a performance auditorium, enriching both science and arts pursuits in the city.

-An emphasis on green and walkable environments: From the start, FBDC heavily invested in creating an environmentally friendly, green, and walkable environment. BGC has a large number of well-landscaped parks and streets with a wide range of mature trees and other vegetation. According to some

interviewees, the consortium formed a special team headed by a tree specialist. BGC also has a large number of open spaces evenly spread out, providing space for fitness, events, and respite from day-to-day hustle and bustle. One such space is the BGC Greenway, a 1.6 km linear park along the western boundary between Manila Golf Course and residential compounds inside BGC. These green spaces are maintained to high standards and collectively form the longest urban park in the metro area.

-Clean construction sites, high and consistent quality of design and construction: From the start, the consortium imposed clear design and construction guidelines for developers buying land plots. The guidelines include design requirements for arcaded streets and ceiling heights, allowing sky walkways to be constructed on 2nd floors to connect buildings. While, at any given time, a dozen or more construction projects are in progress, (involving nearly a million square meters of GFA under construction as of writing), the overall environment of BGC has remained clean and orderly.

-Plan for evolving uses and increased density over time: According to the revised master plan, sites along High Street will have BGC’s highest FAR, which in practical terms



Residential and retail & entertainment neighborhood

means they should feature the tallest towers. However, realising that transport infrastructure and the volume of new office take-up were insufficient, and given also the need to create pedestrian-friendly retail and entertainment options, FBDC decided to build low-density single or two-story buildings along the central east-west axis as an interim measure. Undeveloped sites have also been actively used to hold public events and for public parking. Once construction of more robust mass transport infrastructure is completed, High Street and nearby mid-density lots can be redeveloped into significantly higher-density buildings.

Lessons learned

-Secure sufficient long-term funding in line with the life of the development plan: In the early years, the consortium lacked a long-term funding plan. Instead, it relied on contributions from consortium members, together with proceeds from land sales to fund infrastructure investment and operations. A number of interviewees mentioned that the requirement for full payment of the land purchase price within 3 years, in the context of a project expected to last 20 years, created undue financial pressure from the outset. Excess leverage, together with an overreliance on foreign-currency debt, further destabilised operations of both the consortium and the overall project. Subsequent sales of smaller plots by consortium members further aggravated the problem.

-When embarking on a large-scale master planned community project, ensure there are participants with relevant experience and expertise in key areas: Some interviewees commented that in its initial phase, the project would have benefitted from a major participant with strong retail property development background. A successful retail shopping centre would probably have made living or working in BGC significantly more convenient and attracted more investors and buyers. In addition, given the limited local talent pool, FBDC had to rely on large numbers of expatriate professionals who were signifi-

cantly more expensive to hire than local professionals.

-Make necessary changes in a timely manner if macro environment changes: A number of interviewees commented that when the Asian Financial Crisis began in 1997, the consortium failed to recognise the severity of the crisis. As a result, it was slow to adjust the master plan and reduce operating expenses and investment in infrastructure.

-When planning transportation infrastructure, do not over-rely on completion of planned government mega projects like mass rail transit. Instead, plan for less expensive and practical alternatives: The initial plan relied heavily on a planned railway that would connect BGC to Makati, the main CBD, and ultimately to Clark Air Force base. This plan was scrapped following the start of the Asian Financial Crisis, but the master plan was not subsequently revised to improve road access into the area.

Ongoing improvements

-Transportation: Ironically, the efficient street grid system within BGC has led to a significant volume of pass-through traffic entering the area. Commuters travelling past BGC often choose to drive through rather than use adjacent highways along the periphery. As a result, according to FBDC, pass-through traffic represents about 70 percent of BGC's total vehicular traffic count. The resulting traffic glut has led the FBDC to initiate plans for "interceptor" parking garages at key road entry points. It is also studying implementing a Bus Rapid Transit (BRT) system. That said, car traffic is expected to decrease once the newly-initiated subway construction project that will connect BGC to other key population centres in Metro Manila is complete.

-Co-living spaces provide new worker housing: IT and professional service outsourcing have become the biggest source of new office demand for BGC. To meet the needs of its young workers, a number of developers are now building dormitories in the area. For example, FBDC has developed its own

co-living facility inside BGC called The Flats 5th Avenue that now has close to a thousand residents.

PROJECT INFORMATION

BUILT GROSS FLOOR AREA

(’000 SQM OF GFA)	1999	2000	2001	2002	2004	2006	2007	2008	2010	2012	2013	2014	2016	2017	2018	2019
OFFICE			23	38	38	56	85	174	353	820	1,060	1,655	1,927	2,132	2,442	2,806
RESIDENTIAL			207	207	317	347	522	735	1,318	2,050	2,161	2,331	2,940	2,940	3,208	3,686
RETAIL / ENTERTAINMENT	4	4	16	42	233	273	310	315	339	623	633	740	844	849	860	988
INST/EDU/OTHERS		5	21	111	131	132	135	135	235	268	281	299	321	321	324	372
ACCUMULATED	4	9	267	398	719	808	1,052	1,359	2,245	3,761	4,135	5,025	6,032	6,242	6,834	7,852



About the Urban Land Institute

The Urban Land Institute is a global, member-driven organization comprising more than 48,000 real estate and urban development professionals dedicated to advancing the Institute's mission of providing leadership in the responsible use of land and creating and sustaining thriving communities worldwide.

ULI's interdisciplinary membership represents all aspects of the industry, including developers, property owners, investors, architects, urban planners, public officials, real estate brokers, appraisers, attorneys, engineers, financiers, and academics. Established in 1936, the Institute has a presence in the Americas, Europe, and Asia Pacific regions, with members in 90 countries.

The extraordinary impact that ULI makes on land use decision making is based on its members sharing expertise on a variety of factors affecting the built environment, including urbanization, demographic and population changes, new economic drivers, technology advancements, and environmental concerns.

Peer-to-peer learning is achieved through the knowledge shared by members at thousands of convenings each year that reinforce ULI's position as a global authority on land use and real estate.

Drawing on the work of its members, the Institute recognizes and shares best practices in urban design and development for the benefit of communities around the globe.

More information is available at uli.org. Follow ULI on Twitter, Facebook, LinkedIn, and Instagram.

ULI CASE STUDIES

The ULI Case Studies program highlights and showcases innovative approaches and best practices in real estate and urban development. Each case study provides detailed information regarding the ideas, plans, process, performance, and lessons learned for the development project. Each also includes project facts, timelines, financial data, site plans, photos, location maps, and online videos. The new ULI Case Studies program is the revitalization of a program begun in 1971. For more information, visit the ULI Case Studies website at casestudies.uli.org.

Ed Walter

Global Chief Executive Officer

John Fitzgerald

CEO, ULI Asia Pacific

Colin Galloway

Vice President, Content, ULI Asia Pacific

Kenneth Rhee

Principal Author

CEO of Huhan Business Advisory & Executive

Director for ULI China Mainland

Louise Lasala

Coordinator for ULI Philippines

Olivia Luo

Research Assistant

Analyst, Huhan Business Advisory

Xuemei Li

Graphic Designer

© 2018 Urban Land Institute

2001 L Street, NW

Suite 200

Washington, DC 20036