

# BreakingGround

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## Trends in Architecture

**BreakingGround  
Marks 10 Years!**

**New Overtime Rules  
for A/E Firms**

**Using Master  
Planning for  
Financial Success**



# Best Practice



## Plan Ahead: Using Master Planning for Financial Success

By Nitin B. Desai

At the end of 2015, Pittsburgh made headlines in the national and international press when the Danish architecture studio, Bjarke Ingels Group, unveiled its master plan for the Lower Hill. BIG was hired by McCormack Baron Salazar and Pittsburgh Arena Real Estate Redevelopment to reimagine a long-overlooked site that has untapped potential. The master plan has drawn considerable public input and interest. But it's not only former stadium sites that need new master plans. Beyond the Hill, Pittsburgh today has various pockets of land that are ripe for development, and while many developers are quick to build in order to maximize their returns, a little planning can go a long way for large and small site developments.

It is easy to forget that master planning is an essential step in designing an effective and profitable real estate development strategy. The master plan helps strike the balance between investment objectives and programmatic requirements, taking the nature of site and control parameters of zoning, building, and environmental ordinances into account. Therefore, it is a key tool for both economically and environmentally sound decision-making.

The investment of time, money, and energy in master planning has paid off in a number of well-known cases beyond Pittsburgh. Seaside, Florida, a beachfront community by Andrés Duany, FAIA, and Elizabeth Plater-Zyberk, FAIA, proved that the process of master planning and designing of our communities can be innovative, environmentally sensitive, and still profitable. In India, Auroville has become a symbol of spiritual and sustainable living, based on an "integrated" masterplan that holistically integrates the city and its hinterland. Foster and Partners' masterplan for Masdar, in Abu Dhabi, has evolved to be high-tech and yet a sustainable city in the middle of a desert that accommodates growth "while avoiding the sprawl that besets so many cities." Architects and planners are adept at such envisioning. Real estate investors, developers, and corporations can use this tool in a plethora of ways to maximize the success of a project, before and even after breaking ground.

### Forecast Needs and Vision

Healthy corporations seem to grow gradually, and so do their spatial needs. Acquiring real estate and building facilities are long lead-time processes. Well-run corporations feel the need

to proactively develop strategic facility plans well in advance of the actual demand. The planning efforts ensure that the right type and quantity of land, buildings, and services exist in the right place at the right time to house corporations' burgeoning resources. This can have a significant impact on the future financial success of the company. Corporate clients, targeting specific market sectors, require specialized built-to-suit facilities with specific quality and quantity of space in mind. Thus, master planning and design become incredibly important to resource planning as corporations start allocating finances, assemble expertise, develop schedule, and build facilities in the right quantity and with the desired results. Further, corporate image, or vision, is a part of the client's competitive advantage, which the architect can integrate most thoughtfully and effectively through the process of master planning.

### Evaluate the Site

Location, location, location: Some sites may offer strategic advantages in terms of zoning, topography, access, and geometry. When selecting the site, it is crucial to evaluate the physical aspects of alternative sites as they can have enormous financial impact on the development. Highly contoured sites, of course, are expensive to build upon. A complex program can be relatively easy to reconcile with a site's regular geometry, while the presence of a ground water table may limit below-grade expansion. Soil quality has direct impact on the type and cost of foundation, and contaminated soil will require mitigation. Sites with similar topography and regular geometry may also have other competing characters that only can be discerned through a master planning exercise.

Clients seeking to find an appropriate site should work in close coordination with architects to determine the suitability of the site with respect to the program in mind. Some sites may offer better development density and flexible zoning benefits than others. Access to the existing roadways and utilities reduce infrastructure development cost. The financial attributes of various sites such as initial purchase cost, tax incentives, and resale value can be determining factors as well. Environmental restrictions, undesirable neighboring properties, covenants, easements, deed restrictions, entitlement restrictions, and even archeological impediments are other compelling factors to be taken into account.

### Holistically Consider Regulations

Master planning is an ideal tool to convey the intent and benefits of the proposed development to regulating bodies. All large-scale public projects are subject to the requirements of Environmental Impact Assessment, for example. They are also subject to public scrutiny and interest. The process of



master planning addresses zoning regulations and building codes in detail, since these may have considerable impact on the outcome of the development. Easements may limit the development of a portion of land. Stipulated zoning tends to exact certain conditional development by requiring developers to perform certain activities (providing low cost housing, development of open spaces, provision of public amenities, etc.) in order to permit development. On the other hand, incentive zoning provisions make projects desirable for both public and private developers by encouraging developers to integrate certain amenities or qualities (open spaces, plazas, public art, public amenities, etc.) in their projects in return for identified benefits such as an increase in development density or rapid processing and approval of applications. Historic districts may have specific conditions that may limit the appearance and extent of development permitted, just one of many considerations it's important to understand early.

### Plan Efficiently for Infrastructure

Other value-adding parameters are pursued concurrently during master planning as well. Efficient and thoughtful vehicular and pedestrian circulation can help reduce infrastructure development costs by maximizing green space, increasing porous paving, and reducing hardscape to bare minimum requirement. Sustainable principles and urban design features make projects more attractive for prospective tenants and buyers. Views and vistas fetch high premiums on unit sales, thus defining premier locations of the site. Early geographic and geological considerations can significantly reduce construction cost by proposing location of buildings in congruence with the existing topography and ground water. Cut and fill encourage re-use. Locating pathways along the contours reduces excavation costs and does minimum damage to the sensitive geography. The occurrence of hard strata escalates the excavation cost and thus vertical stacking of the program may be economically feasible. Population density derived through a master planning exercise helps to determine the cost associated with the provision of utility infrastructure for water, gas, and power.

### Avoid Over- and Underdevelopment

Overdevelopment and underdevelopment are both detrimental to the financial success of real estate investments, and can be avoided with a bit of planning. A project is overdeveloped when the pace of demand lags the pace of development. Developers invariably run the risk of delayed return on investment in a sluggish market, sometimes even incurring significant financial losses. Phasing through master planning can prevent overdevelopment as it addresses key aspects such as available financial resources and thoughtfully planned scheduling. Strategic phasing enables the development that is gradual: supplying as the demand occurs.

A project is underdeveloped if the site is not put to best and most appropriate use, and thus fails to realize its full potential. In this case, the master planning exercise can help determine the maximum possible development by taking into

consideration both positive and negative impacts of zoning and building ordinances, and by analyzing a site's strengths and weaknesses. A prudent developer may seek a feasibility study to understand the nature of market demand in this case. Also, no two investors have the same appetite for risk. Some dare to invest aggressively, others invest conservatively. Economic conditions also suggest whether phased development might be appropriate. Lower inflation marked by lower material and labor costs tempts some developers to complete projects in a single phase. Hence, a market analysis backed by a well-conceived master plan only helps to turn critical economic challenges into viable decisions.

Not all markets are predictable. Developers can best take advantage of master planning to assess the financial viability of their development by beginning with a soft launch. By releasing a small portion of a development to market early and testing the product, the developer will have a clear sense of the market demand, allowing the possibility to pivot the development strategy if necessary, thereby avoiding over- and underdevelopment.

### Create a Cohesive Sense of Place

The intangible benefits of master planning can increase the success of a development. Common design controls developed during master planning can help make a large-scale project a seamless experience by arranging buildings into a coherent pattern irrespective of the phase in which they are built. Urban design guidelines enhance the place-making experience by specifying aesthetic characteristics. Programmatic requirements backed by a unifying aesthetic have proved to work as a magnet and a selling point in many successful real estate ventures around the world.

### Keep the Plan Responsive and Flexible

Long-drawn planning projects bear the brunt of ever-evolving market conditions. Large-scale projects span over a number of years and evolve through constantly changing social, economic, and political conditions. For that reason, it is wise to consider periodic updates to the master plan in order to study the suitability of the original program against present circumstances.

For all these reasons, developers are well advised to select architects and planners that can integrate the expertise of planning, urban design, architectural design, and environmental design to deliver a master plan that helps clients to set up pragmatic and achievable financial goals. The master plan is a crucial first step to ensure the success of any site and, by extension, the vibrancy of the Pittsburgh region.

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