

**INNOVATIVE PRACTICE IN THE BUILDING PROCESS:  
A CONVERGENT DEVELOPMENT APPROACH**

by

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Submitted to the Program in Real Estate Development in Partial Fulfillment of the Requirements  
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*Center for Real Estate  
July 21, 2016*

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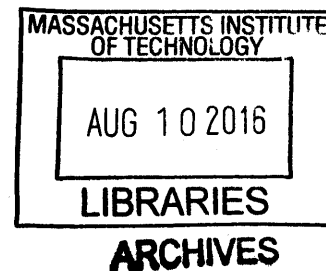
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## **ABSTRACT**

The current practice of building is a slow-moving, fragmented, and conflicted industry that operates on a variety of scales, emotions, professions and realities. The current practice of making buildings has the potential for innovation to align interests among otherwise adverse parties. Buildings are complex and dynamic physical realities, operating as economic, social, and emotional constructs in the urban environment. Buildings also constitute the single unifying element upon which all stakeholders in the process place their expectations. Financial, spatial, emotional, and civic success hangs in the balance of a zero-sum process.

The background of the development process is presented, focusing on the current practices of real estate development and architecture and highlighting the critical relationship between each entity. Following the description of the underlying relationships and processes, three case studies of actual practices are presented as innovative and unique alternatives to the current process of building. Each case study outlines a potential integration and convergence of real estate development and architectural design, providing a new viewpoint from which to analyze current practice.

Five principles of excellent development emerge from the case studies as decisive benchmarks to analyze the building process. Following initial background information and explicit understanding of current processes and potential innovative alternatives, this thesis proposes a new practice model of integrated real estate development and architectural design, the Convergent Model, which seeks to simplify the building process and align economic, social, and cultural goals within a truly interdisciplinary team of professionals. The process is a potential solution to the compounded and interconnected issues of current practice and is more likely to meet the five principles of excellent development.

Finally, the Convergent Model is put into practice through a hypothetical demonstration project. The demonstration project consists of a comparison between a Baseline and a Proposal, two developments on the same site. The Baseline utilizes traditional practices and the Proposal employs the Convergent Model. The development processes are compared side by side and evaluated as an illustrative depiction of the potential for a new development process that is more capable of creating excellent buildings.

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*Figure 00.1 Seagram Building, New York City, completed in 1958,  
Mies van der Rohe, Commercial real estate and high design*

## ACKNOWLEDGMENTS

Mies van der Rohe, an architect whose career I admire and whose buildings I love, once spoke about the idea of success. “Don’t worry about success. Success is just the by-product of good, simple, and honest work” Over the past two years I have done nothing if not work hard, and believe in this idea of success. I would like to sincerely thank everyone who has believed in me, and unquestionably supported my efforts.

First, I would like to thank my close friends and loved ones, who I have surely ignored as I dove into graduate studies. They have been patient, kind, and encouraging. I am proud and grateful to have their support. I consider my close friends as my brothers, and without them I would be lost.

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I would like to thank the mentors that I have had since my time as an undergraduate student to present day. I have had a few important mentors in my professional career, and I look up to them hoping that I may be as accomplished myself one day. They have had to hear my thoughts, opinions, frustrations, and beliefs about the world, and in every case they have listened, asked questions, and guided me along the way.

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# 01 INTRODUCTION

## Overview

The relationship between Architects and Developers is central to the realization of the built environment. These two seemingly different professions are generally quite similar pursuits. However, there has been hardly any discussion, investigation, or explanation of the interaction between these mutually dependent parties. As Paul Goldberger states, writing in the New York Times:

“These relationships are rarely thought about, despite the fact that the interaction between the creativity of an architect and the aspirations of a builder [developer] is crucial to the shaping of the city.”<sup>1</sup>

The purpose of this thesis is to investigate this complex relationship and the resulting built environment, culminating in a new model for creating buildings where the practice of Real Estate Development and Architecture are fully integrated into an optimized process. This thesis will conceptualize a new, reconstructed practice model where the roles of these two traditionally discrete parties are amplified and intertwined, to reach goals beyond what would be achievable when operating as separate entities. The current process of building is a fragmented and fictionalized process, represented in Figure 01.1, which shows three distinct entities that contribute to the process of creating a building; the Owner, the Architect, and the Contractor. This simplistic

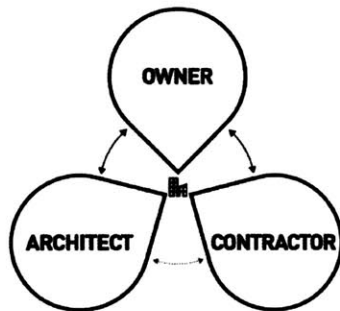


Figure 01.1 Simplistic Practice Diagram

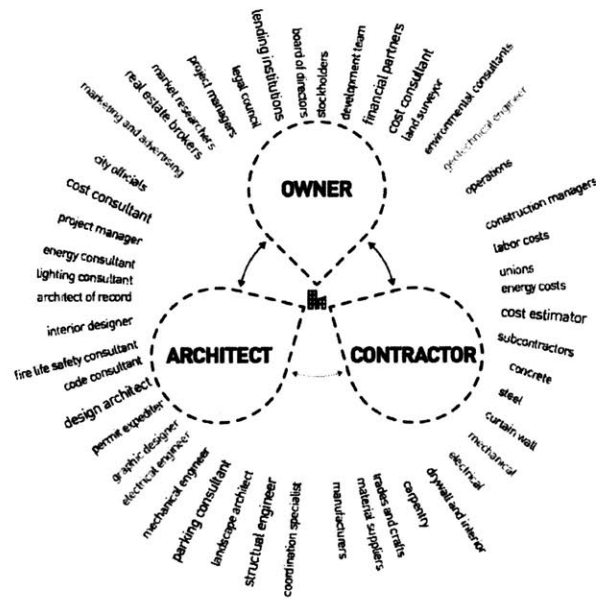


Figure 01.2 Interested Parties in the Development Process

1 Paul Goldberger, “Architecture View; Architect vs. Developer: A Curious Dynamic,” The New York Times (1982): <http://www.nytimes.com/1982/07/18/arts/architecture-view-architect-vs-developer-a-curious-dynamic.html>.

diagram is never the reality that occurs in practice, which takes on a hybrid organization. This de facto organization consists of multiple ad-hoc and informal arrangements which are constantly changing and only loosely tied to the overall three party model. This is a result of an increasingly complex built environment, with more consultants at the drawing board, more subcontractors specialized in a particular trade, and more stakeholders and approval agencies to navigate. Figure 01.2 depicts the array of parties engaged throughout the development process reflecting the increased complexity and technology of buildings. Though the chaos of interaction between many parties is evident in the diagram, the process is still defined by an unrealistic and out of date practice model of owner, architect, and contractor. Even standard legal contracts that underline the three major parties and their respective roles in the process mask the reality of informal interaction that naturally occurs. The current process of building rarely resembles the intended underlying structure.

The role of the developer and the architect emerge as the entities that drive the creative process of building, depicted in Figure 01.3. The developer acts as the creative and entrepreneurial force by which the built environment is constructed, where profit can be gained by creating space which meets the needs of a particular market. Beauty and functionality by themselves cannot necessarily meet demand for shelter, space, and light, and all buildings must function from an economic perspective to be a successful venture. Therefore, the developer holds much of the creative power within the building industry. The profession of architecture is naturally a creative endeavor, heavily influenced by the arts and aesthetic concerns. However, the architect must also interpret and synthesize the demands of the market, the realities of construction, and the public realm of the city. A new practice model for development is required to deal with the complexity of buildings that stresses the importance of the major creative entities and aligns interests from an economic, functional, and emotional point of view. The concept behind such a process, which is developed in this thesis, is illustrated in Figure 01.4, the Convergent Model, in which the developer and the architect function as the same entity, improving efficiency and dexterity with the goal of creating excellent buildings that exceed the results of what would otherwise be possible in current practice.

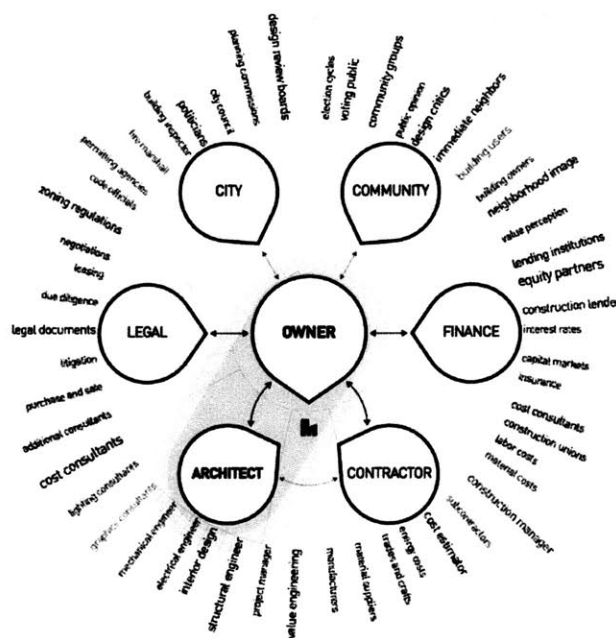


Figure 01.3 Developer and Architect as Creative Forces

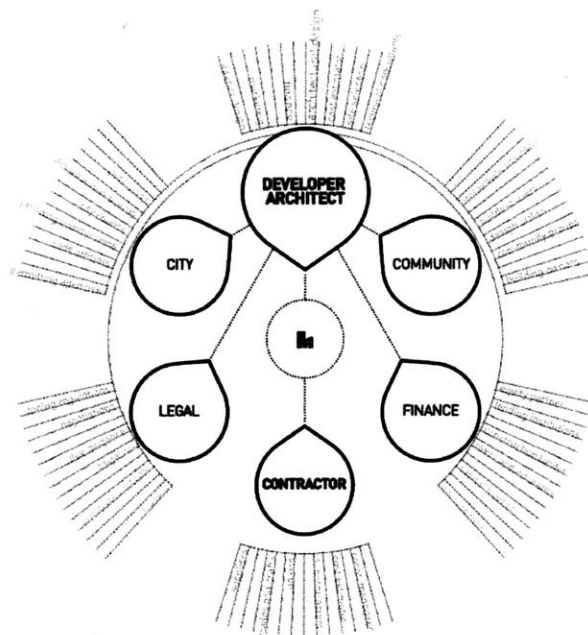


Figure 01.4 Convergent Model

The complexity of cities, urban environments, and individual buildings lends complication to the generalized terms of developer and architect. In particular, developers or real estate owners take many different forms and organizational structures, with varying goals and time periods of interest. A developer may be a for profit commercial real estate developer, a publicly traded Real Estate Investment Trust (REIT), a non-profit affordable housing developer, a municipal government agency, an institution of higher learning such as a college or university, or a cultural institution among other forms. This circumstance illustrates the complicated and improvisational nature of development and the creation of buildings. In addition, each particular geographic location comes with unique governmental bodies, political circumstances, and regulatory frameworks. Varying building typologies and uses also come with unique and circumstantial baggage. Does the building enclose multiple residences? Does the building provide space for work? Does the building enable advancement of education, culture, and social wellbeing? This thesis addresses the role of commercial real estate, which accounts for the majority of occupied space in the built environment. As such the primary focus is on commercial development, which includes multi-family residential buildings, office buildings, hotels, retail environments, and mixed-use complexes encompassing two or more of these distinct uses within a single development. However, the new practice model for commercial development will also be adaptable to confront the challenges of institutional development, potentially changing the definitions of commercial, institutional, and governmental real estate development. The thesis is organized as follows.

## **Chapter 2 Building Complexity**

There is great significance of building in an urban environment and the social, emotional, and physical impacts buildings have on cities is a powerful issue. Importantly, this chapter argues that there is an underlying basic interest between developers and architects within the physical building. By aligning interests, the process of building is analyzed in a more expansive and effective way than in current practice. Buildings are commonly understood to be more than pure function, a fact that underlies the reasons why there has been difficulty in judging the quality of a particular building. An objective and simplified method for judging the success of a building is established with the goal of critically understanding current processes of building compared to alternative or new methods. The goal of creating an excellent building comes down to satisfying three general groups that take interest in the final product; building owners, building users, and participants in the building process.

## **Chapter 3 Current Practice**

This chapter provides a deeper investigation into the relationships between Architects and Developers in contemporary practice. The current roles of developer and architect are analyzed and understood in the larger context of history. The first school of architecture began at Massachusetts Institute of Technology in 1868 and the first professional licensing requirements for architects in the United States only appeared in 1897. Inextricably, the first ever educational curriculum dedicated to professional Real Estate Developer also began at Massachusetts Institute of Technology starting in 1983. Over the course of history, complex buildings were designed, financed, built, and operated using many different processes and actors. How then, has the building industry arrived at its current state of a fragmented and ineffective building process? Three broad but distinct professional categories currently exist in the process of making buildings, an owner, an architect, and a contractor. The loosely defined roles are characterized by a variety of ad hoc, project specific relationships that develop based on a complex and multi-disciplinary development process. The tangled and overlapping roles of each party involved creates tension and discontinuity throughout the process, leading to many buildings that lack the overall quality required by all parties.



## **Chapter 4 Case Studies**

An analysis is conducted of three current practices that utilize alternative practice models for the process of building. The first practice is Guerrilla Development based in Portland Oregon. Guerrilla Development focuses on innovative real estate products and financing structures and also delivers the final built form with a unique combination of a small development team and an architecture office within one organization. The second practice is Optima Development, with offices in Chicago, Illinois and Scottsdale, Arizona. Optima takes on the role of developer, architect, and general contractor all in one umbrella, with the additional services of sales, leasing and property management for long term asset operation. The third practice is DDG Partners located in New York City and San Francisco. DDG Partners provides full services for the creation of buildings, from acquisition and development through design and general contracting to completed construction. A critical analysis of these innovative building processes from creative inception through completed construction will be analyzed and compared against current practice. The case study practices will be used as a starting point to consider an innovative practice model in the following chapter.

## **Chapter 5 Convergent Model**

First, this chapter builds on the premise that the current process of making buildings is flawed and recognizes that a solution to this dilemma does not exist within incremental improvements to individual professions. The Convergent Model focuses on the creative forces that drive the creation of the built environment. The developer and the architect are recast as a synthesized entity, where otherwise conflicting goals are aligned. The many stakeholders in the process are organized and accountable to a single creative force. Since the combined developer-architect leadership model must respond to the economic, functional, and emotional aspects of a proposed development, the new practice model will not appease the desires of any one stakeholder over another. Rather, the goal of the new model of development is to push towards a single critical objective; to create the highest quality building possible within a given set of constraints.

## **Chapter 6 Demonstration Project**

This chapter utilizes the Convergent Model within a hypothetical design and development project in order to illustrate and simulate the business model in practice. A realistic site and development proposal is compared against a baseline condition of current practice. Principles to unlock the added value of a new development practice are identified. These principles will be utilized to compare the thesis project which will be developed, designed, and executed within a new process of building against a standard condition of development under current best practices. The thesis project will act as an illustrative response to an open-ended hypothesis and serve as a conclusion to the complex issues, realities, and processes laid out in previous chapters.

## 02 BUILDING COMPLEXITY

### Aligning Interests

Developers and Architects have different sets of skills, methodologies, and expertise; however, they are united by the common bond forged by buildings and the built environment. Although a significant portion of the real estate development field deals primarily with financial, economic, and business matters, they are nonetheless bound to an underlying framework of physical assets. Similarly, a majority of an architect's day-to-day activities occur in the design stage and they are often removed from the physical product of the building, yet the ultimate success or failure of professional architecture offices rely entirely on the constructed real estate. Therefore, in theory, the developer and the architect must be concerned with achieving a similar outcome, the creation of an excellent building. The issue of what constitutes an excellent building is a highly debated and controversial one, and will be addressed in this thesis. However, before getting there, we must consider the goals of each party separately.

The interests of a real estate developer are often grounded in profit oriented results. The profession of development is an entrepreneurial pursuit and must consider a multifaceted variety of factors related to real property while simultaneously ensuring economic viability for investment stakeholders.<sup>2</sup> For a particular development, investment stakeholders comprise all direct investors and financiers in the development project. Many would argue that the definition of stakeholders also includes political organizations, regulatory bodies, the community, and public opinion. But as with any entrepreneurial business, financial returns are a defining feature of success and are unquestionably important in garnering opportunities, capital, and influence for future projects. Yet real estate development is explicitly a local process that affects interests on many levels. A particular commercial building might be the catalyst for neighborhood redevelopment and economic regeneration, or the opposite, so it may be argued that even non-direct investors have financial stake in any particular development.

Though the basis of most financial underwriting in real estate development involves complex financing arrangements and deal structures, almost all professional developers will analyze an opportunity at the underlying project level. That is, the development must make sense and provide acceptable financial returns on a before-financing basis. This type of analysis is done so that financiers can analyze cash flows from the building in a more direct manner.<sup>3</sup> Described in another way, lenders and investors are interested that the building, or series of buildings themselves are a profitable product that they are willing to bet on. Though these types of analyses are disguised in financial spreadsheets, developers, lenders, and analysts are ultimately attempting to understand the physical realities of a particular building as an asset.

Ultimately the primary area of interest for the developer must be the building. The building is the marketable product that frames space within which to secure leases or execute sales, providing the basis of financial underwriting. The building's physical construction also directly influences financial performance through hard construction costs, depreciation, and eventually capitalization rates. A building that consistently trades at high values might be a testament to the execution

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2 Richard B. Peiser and David Hamilton, *Professional Real Estate Development* (Washington, D.C.: Urban Land Institute, 2012), 3.

3 William J. Poorvu, *The Real Estate Game* (New York: The Free Press, 1999), 42.



Figure 02.1 John Hancock Center in Skyline, Chicago, Illinois



Figure 02.2 John Hancock Center Exterior, Chicago, Illinois

of an excellent product, both from a real estate perspective and from a design perspective. The building is also a physical and emotional presence within the community and the perception of the general public often determines the success of a development. Finally, the users of a space are shaped profoundly by buildings and their environments. (see Figure 02.1 and 02.2) Our homes, workplaces, and neighborhoods are very personal and emotional issues.<sup>4</sup> These forces have some influence on value and the bottom line returns for the developer and investors, although this topic of valuation has been largely ignored in practice and academia. Regardless, all representational constructions associated with real estate including money, value, perception, and emotion are grounded in one thing, the building.

For the general public, the assumed main interests for architects might naturally be the building. However, this idea is fraught with misconceptions and underlines the complex relationship architects have with respect to developers, investors, tenants, the public, and buildings. The American Institute of Architects, the professional organization for registered architects in the United States, has approximately 50 distinct definitions for “the practice of architecture” each relating to a specific state or U.S. territory and a respective legal statute.<sup>5</sup> Logically, every definition contains a reference to “buildings” or “structures” but nevertheless there are substantial differences in how the profession is defined among the governing body of professional architects, individual practitioners, and academics. A closer look at the evolution of the profession of architecture in the United States, starting in the nineteenth century and progressing to the current status today, reveals that architects provide a service, and they are not necessarily able to “claim sole proprietorship over the technical aspects of a building” but rather they pursue building “design-as-art”.<sup>6</sup> Fundamentally, the services provided to a client, often times a real estate developer, do not directly produce a product, or building. Developers, financiers, investors, planning committees, engineers, consultants, contractors, subcontractors and various other parties step in during various stages of design and development to assure that a building is created.<sup>7</sup> Thus, the contemporary

4 Poorvu, *The Real Estate Game*, 20.

5 “AIA Practice of Architecture Definition Statutory Matrix,” The American Institute of Architects, accessed May 25, 2016, <http://www.aia.org/aiaucmp/groups/aia/documents/pdf/aia095374.pdf>

6 Dana Cuff, *Architecture: The Story of Practice* (Cambridge, USA: MIT Press, 1992), 31.

7 Cuff, *The Story of Practice*, 32.

architect is removed in significant ways from the physical building. Although it is often within the architect's scope to perform construction site visits and ultimately procure a "punch-list" of items to be completed before the building is finished, in practice the architect has minimal long term vested interest in the final physical product beyond its role to facilitate future work.

It is not uncommon for an architect to never visit a building project beyond its completion date and it is much rarer to find an architect with any direct financial investment in a building designed within his or her office. In many current international practices, architects may spend months and years designing a building and never set their eyes on the physical reality of their design process. Yet architects are entirely reliant on the physical products, the buildings which are based on the services they deliver, for the long-term sustainability of any particular professional architecture office. Experienced clients and developers typically go through painstaking measures to ultimately choose a specific firm for architectural services. For most large building projects, this process always considers a firm's body of built work and the reputations their designs carry. Put more simply, though a professional architect provides a design service rather than explicitly delivering concrete reality, actions are nonetheless undertaken with an implicit understanding that the ultimate result of services is a physical building.

Therefore, the primary area of interest for the architect must be the building, too. Even if design is conducted from a distant part of the world, (see Figure 02.3) the physical reality carries weight beyond simply paying bills and satisfying a professional commitment. For architects, the eventual building represents the culmination of intense discussion, drawing, imagining, criticism, and struggle with a conceptualization that does not yet exist. Explicitly, architecture as a whole is not a science, although aspects of creating a building are based in building science and engineering and therefore follow the laws of physics similar to professions of medicine following laws of biology.<sup>8</sup> However, the design of buildings is a product of the human mind, or multiple minds, and as such may be subject to constant renegotiation and modification. The art of building leads to a process of "perpetual discovery"<sup>9</sup> where the actual physical building and the deadlines toward that goal act as the only major constraints on a potentially endless process. The functional and objective realization of theories, concepts, and processes of "design-as-art" therefore culminate in a completed building. However, the building carries high stakes with serious consequences for building owners and users<sup>10</sup>, separating the profession of architecture from other forms of art and placing greater emphasis on the physical product.

## **Buildings and Emotions**

In the context of the professional endeavors of real estate developers and architects, not to mention within the context of communities, political systems, economies, and society, the complexity of buildings cannot be understated. Contemporary buildings are complicated from a building systems and technology view point. Coordination of mechanical, structural, electrical, plumbing, and communication systems must exist within highly engineered and complex exterior envelopes. But buildings are not just a coordinated agglomeration of parts. From the perspective of architects and design related audiences, subjective issues such as aesthetics, symbolism and emotion are important factors when considering the building as a whole. Pritzker Prize winning architect Alvaro Siza reflects on the important role of emotion over logic in the art of building. "You have to feel what you are doing, and not be so rational that you just solve problems, because emotion is very important. Without it, something is missing."<sup>11</sup> Though emphasized from the

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8 *Architect's Handbook of Professional Practice* (Hoboken, New Jersey: Wiley, 2014), 25.

9 Cuff, *The Story of Practice*, 93-94.

10 Cuff, *The Story of Practice*, 100-102.

11 Alvaro Siza, "Emotion in Architecture," *Dezeen Magazine*, December 19, 2014, <http://www.dezeen.com/2014/12/19/alvaro-siza-interview-porto-serralves-museum/>.



*Figure 02.3 Burj Dubai, Dubai, UAE. Teams of architects work on the design of a building across the world, one they might never visit*

designers perspective, developers, architects, contractors, tenants, building users, and passers by have emotional, physical and cultural reactions towards buildings in one form or another, however subconscious and disguised the feelings may be. Figure 02.4 is emblematic of the close relationship between developer Gerald Hines and architect Philip Johnson, which resulted in an office building that reflected corporate strength, provided functional office space, and created a sculptural presence on Houston's skyline. The developer and the architect, the combined parties that serve as the creative drive for the realization of a physical future that does not yet exist, account for the major forces that deal with the complexity of building creation.



*Figure 02.4 Penzoil Place, Houston, Texas*



*Figure 02.5 The Fountainhead, 1949 Scene from the movie based on Ayn Rands seminal book, architect Howard Roark discussing design issues with developer clients*

Buildings are personal, emotional and symbolic beyond pure function and structure. Buildings also operate within a larger financial ecosystem where investors, capital markets, interest rates, banking institutions, and urban economics have a vital impact on the physical structure. There are significant differences between real estate as a financial vehicle compared to other types of assets. Real estate investments, and therefore buildings, are themselves large scale, long lasting, illiquid, and immovable objects. To create a completely unique building on a specific site requires tremendous capital resources and willingness to take on similarly tremendous risk, hopefully for a substantial reward. The stakes are high across all invested parties in the creation of a structure and all stakeholders are interested in a result that meets specific standards. To complicate matters, these standards must be met across different and often competing categories. A building must be visually satisfying, a building must be delivered within a specific budget and time-frame, a building must appeal to tenants, buyers, visitors, and users, a building must provide returns for invested parties, a building must be accepted by the community, a building must pass regulatory standards and approvals, a building must reflect the ideals of contemporary society, a building must make a positive long-lasting impact on future circumstances, and so on. The team of developer and architect must react to these external influences while simultaneously moving toward a vision for the future, relying heavily on combined leadership, vision and determination.

The coming together of developer and architect is often a tricky proposition, (Figure 02.5) filled with subjective concerns such as aesthetics, ambition, creativity, and politics. The differences between the two parties are often magnified by the cultural ethos of the building industry that

emphasizes a dialectic relationship. If the profession of architecture was a pure science and if the goals of a developer were concerned solely with the bottom line, a rational approach to the creation of buildings would favor a systematic and segregated structure. However, this critical relationship has an underlying bond in a physical building, which in itself is a highly complicated, personal, cultural, subjective, and constructed object. The emotional nature of our buildings and the current contradictions within the building industry result in an environment where excellent buildings are rare and special cases, often based on the coincidental forming of a passionate, focused, and intelligent team of architects and developers.<sup>12</sup>

## Excellent Buildings

The interests of developer and architect are grounded and fused in the physical building. Therefore, we know that it is in the best interest to create a building that meets or exceeds the expectations for both parties; developer and architect reciprocally want to create an excellent building. The purpose of this thesis is not to establish a systematic criteria upon which a particular aesthetic, style, or spatial composition might be judged. Rather, excellence may be judged based on phenomenological qualities perceived by an individual or group<sup>13</sup> rather than an architectural problem of design logic or a financial return hurdle for investors. Within the context of this thesis, the individuals that have reasons to make judgment on excellence may be categorized into three main groups; building owners, building users, and the participants in the building process. Building owners include the development group, the equity investors, the financing agencies, the building operations team, and any individual or group with legal ownership of the property. Building users include tenants, buyers, guests, visitors, community members, individuals that regularly interact with a building, and the general public who experience the building either directly or indirectly. Participants in the design process include architects, design critics, engineers, consultants, professional organizations, and equity stakeholders, the general public, and interest groups.

The three main groups are not intended to be a comprehensive list and as with the building process itself, the complexity of evaluators creates overlapping roles between owners, users, and participants. Community groups and other building users are often included in the design, approval, and building process. With the case of a multi-unit condominium project, building users are also considered building owners. For corporate headquarters buildings, a corporate ownership entity might also be occupying space within the building, creating a situation where the building owner is also a tenant. To complicate matters further, the dynamics of power between these approximate groups throughout the building process often shift and depend on particular locations, jurisdictions, political figures, and social circumstances. Community approvals often carry a significant amount of weight and interest groups might be the most difficult to appease in the building process. In other cases, a building owner might have significant socio-political power and have the ability to pursue building projects without opposition. Although the proposed groups that may evaluate the quality and excellence of a building are abstract constructions, meaning that rarely would an individual identify as a building "user" or general "participant" in the building process, nevertheless, for analytical purposes, the three key groups establish a basis upon which a building process and the resulting reality might be judged. In essence, if there is a general consensus by all three groups that a particular building is appreciated, a somewhat well defined judgment of excellence may be applied. There has been a limited amount of research on a similar characterization of excellent buildings through the use of case studies<sup>14</sup>, however, the purpose of this thesis is not to apply a post-justified methodology to determine whether a building meets certain standards of excellence but rather to fully understand the building process and its primary influences on the resulting built reality.

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12 Cuff, *The Story of Practice*, 243-245.

13 Cuff, *The Story of Practice*, 196.

14 Cuff, *The Story of Practice*, 195-232.

If there is a general belief that the underlying interests of all parties rests in the physical building, then there must be an assumption that a potential improvement upon a complicated and distorted building process is possible. There are certain key criteria and goals among participating parties, and often these varying goals are seen as contradictory. But the complexity of buildings, both a challenge and an opportunity, allows for certain cases where interests among all parties are aligned and establishes an environment where excellence for one group equals excellence for all groups. However, the current processes of building have created a reality where only on rare occasions do all three groups feel completely satisfied and a truly excellent building is created. Indeed, a prominent architecture critic, attempting to speak on behalf of the design community and the broader public, recently lamented about the mediocre buildings constructed by greedy developers who hire corporate architects to do their bidding.<sup>15</sup> The analysis might be naively antagonistic towards developers, but there is legitimacy in the evaluation of our current built environment. Given this sobering thought, there must be a critical analysis of the current structures of practice, with particular interest paid to the pivotal relationship between developer and architect.

### **Common Factor**

“Most people know that buildings are not purely functional, that there is an intangible something about them that has to do with emotion. Most towns or cities have towers or monuments of no special purpose, or public buildings and private houses whose volumes are larger than strictly necessary, and structures with daring cantilevers or spans that are not perfectly efficient. These cities have ornament and sculpture, also buildings whose construction drove their owners to ruin, or which never served their intended purpose, or which outlived their use but are preserved.”<sup>16</sup>

Though buildings are both complex social constructions and technological physical structures, and therefore often difficult to understand, they are nonetheless a common factor among all parties. In fact they are the only singular entity upon which all parties can unite to achieve distinct goals. And this common factor is not a finite design process nor a static physical structure. Over the life of a building, renovations are made, capital improvements are completed, and building uses may completely change or be repositioned within the market. The common factor is a dynamic, long term physical existence within the built environment, requiring attention from developers, architects, investors, users, and the community. Does the current practice model of development recognize and satisfy the definition of buildings as common factors that exist over a period of time? Architects typically have no vested interest in the building after the design process is complete, even though physical changes to space, materials, and function happen at frequent intervals. Developers create development budgets that have a certain percentage associated to one time design costs and thereafter provide financial basis for periodic renovations, improvements, and maintenance but never consider additional design services over the life of a building. Operating expenses and capital improvement projections assumes the building to be a static, unchanging structure even though market repositioning and significant design changes regularly occur.

Too often, development companies and the heavily weighted investment side of the business give priority to buildings as financial instruments over matters relating to the physical environment and the success of cities. A combination of investment committees, advisory boards, stockholders, and venture partners must be answered to and the realities of our current system regularly create situations where the phenomenological presence of buildings must be the product of a formula that generates profit in favor of the bottom line.<sup>17</sup> The developer’s practice of creating great neighborhoods and cities may take the back seat compared to the reality of other serious financial matters within

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15 Blair Kamin, *Terror and Wonder, Architecture in a Tumultuous Age* (The University of Chicago Press, 2011), 188.

16 Rowan Moore, *Why We Build* (New York: Harper Design, 2013), 16-18.

17 Peter Handee Brown, *How Real Estate Developers Think*, (The University of Pennsylvania Press, 2015), 279.



every day practice. Cities and their urban environments are compromised of underlying economic agendas, although never enough to cause self inflicted damage. Developers “know that good design is in the eyes of the buyer first, and that good design is design that sells out.”<sup>18</sup> Therefore, the pertinent issues of creating great buildings and improving the urban environment are lost in high occupancy rates, flashy materials, investor returns, indifferent public opinion, and short term viability. Successful and calculating developers are able to compartmentalize desirable and marketable qualities within the built environment. For multi-family residential developments, location, interior unit layout, and views out from a particular unit are often valued much higher than the overall physical appearance of a building.<sup>19</sup> The value judgments described successfully sell in a competitive market and decisions made by conventional developers are based on pragmatic individual assessments. Luckily, the world is not that categorical and real estate development is not strictly an investment vehicle, evidenced by Stephen Ross, CEO of one of the largest development companies in the United States, stating “If the city does well, we all do well” when concerned with his companies success in relation to the urban environment.<sup>20</sup>

There is still a tough reality of underlying economic circumstances battling physical design and spatial issues, and neither position should be taken lightly. The following chapters will attempt to provide a framework upon which invested parties and stakeholders are better able to align goals and better able to fully confront the challenge of creating excellent buildings. Specifically, the highly creative process within real estate development and architecture offices are highlighted as the most influential drivers of the built environment. Contractors, lawyers, surveyors, approval agencies, market researchers, brokers, and many other entities within the building process certainly influence the final result of a building but never truly engage in the creative process of synthesizing economic and market factors, making decisions on product types and built form, and designing the built environment. The common factor of the building and the built environment takes center stage, providing a more purposeful approach to development.

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18 Brown, *How Real Estate Developers Think*, 279.

19 Brown, *How Real Estate Developers Think*, 126..

20 Daniel Massey, “It’s All Related,” *Crain’s New York*, June 21, 2016, [http://www.craigslist.com/article/20120603/REAL\\_ESTATE/306039978/its-all-related](http://www.craigslist.com/article/20120603/REAL_ESTATE/306039978/its-all-related).

## 03 CURRENT PRACTICE

### The Development Process

It would be impossible to come up with a concise definition of the development process, as the built environment and the creation thereof is constantly changing, is varied from location to location, and is based on a set of disparate professions that are coming together at momentary intervals. However, it is important to consider the real estate developer and the architect as the main creative forces that drive development. For both real estate professionals and architects, there are many different stages and tasks associated with the creation, construction, management, renovation, and sale of real property and buildings. Considering the fact that most large scale urban buildings undergo significant capital improvements roughly every fifteen years, architects and developers are involved as the creative engines in varying capacities throughout the lifespan a building. Indeed, buildings are in some sense never complete and continually exist at different states through time. "The word 'building' suggests an action that is ongoing, rather than a finished thing. We don't talk about 'builts'. The question is whether time is used to emancipate architecture, or if architecture is used to suppress time."<sup>1</sup> In this sense, the development process might be thought of as a continual process rather than an isolated, constrained, and capital intensive time period leading up to the construction of a new building.

Financing institutions and capital markets tend to place a high degree of emphasis on the initial development process, as it is extremely risky and requires impressive amounts of capital outlay. However, the current fragmented process of building creates an environment where architects are segregated to designing one-off objects, developers are concerned with isolated investment opportunities, and both notoriously fail to directly consider their underlying interest of creating, maintaining, and adapting an excellent building. This problem, however, is significantly difficult in practical terms. In the current market, architects are destined to drop interest in a building once complete, as people, resources, and time within an architecture firm are reallocated to new projects and possibilities in an effort to maintain profit levels and drive business forward. Similarly, there are developers with short-term time horizons that choose to sell an asset after stabilization or even prior. The reconsidered longer-term development process might have implications on alternative organizational methods of building, but first there must be an analysis of the segregated practices of the creative professionals involved in building, the developers and the architects.

The existing roles of developer and architect tend to be shrouded in an itemized and often legal set of defined expectations and presumed functions, however, the realities under which each of these somewhat distinct professions operate is complex, circumstantial, and intertwined. Developer and architect are often represented as two components that combine with a contractor to form a three party system that is organized to produce a physical building and complete the development process. The development team is always unique and based on project scale, location, politics, and business arrangements. In addition, the development team is working together on limited and temporary circumstances. Indeed, some consultants and other members of the development team must work together through ad hoc arrangements, without a contractually binding relationship. The roles within the standard three party system definitely overlap, but inherited practice models, social arrangements, and industry expectations tend to consider the roles of developer and architect only in isolation.

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<sup>1</sup> Moore, *Why We Build*, 278.



*Figure 03.1 Harry Macklowe, Developer overlooking the city*

## **The Real Estate Developer**

Although the job descriptions of a professional real estate developer often vary and also encompass an extremely diverse skill set, there are common qualities of financial acumen and entrepreneurial motivation seen across the profession, especially during the development process. The Urban Land Institute sets forth the following definition, the real estate developer “encompasses activities ranging from the acquisition, renovation, and re-lease of existing buildings to the purchase of raw land and the sale of improved parcels to others. Developers initiate and coordinate those activities, convert ideas on paper into real property, and transform real property into urban fabric. They create, imagine, finance, and orchestrate the process of development from beginning to end.”<sup>2</sup> Most professionals in the real estate development community align themselves with strong skills in finance, management, negotiation, and entrepreneurship. Many also delegate and rely heavily on creative and subjective design skills of other related professions to execute their vision. Real estate development academic text books often emphasize the importance of strong collaboration skills required by developers today, as buildings, financing, and urban economics require a vast array of expertise by many professionals. However, they also move quickly along to other prominent subjects such as feasibility, financing, construction, marketing and operations. For example, the Urban Land Institutes’ thorough and widely cited textbook on real estate development dedicates less than three pages to the motivations, actions, and responsibilities of an architect,<sup>3</sup> and approximately two paragraphs on the importance of selecting the right design professional.<sup>3</sup> In general, the current practice of development avoids the difficult issue of building design, leaving behind a significant gap in the process of development.

The first dedicated curriculum of professional real estate development began at the Massachusetts Institute of Technology starting only in 1983. This relatively new academic pursuit reflects the similarly new professional field, as our current urban environment of buildings, space and infrastructure has previously developed in a loosely organized, ad hoc manner. A moment of

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<sup>2</sup> Peiser and Hamilton, *Professional Real Estate Development*, 3.

<sup>3</sup> Peiser and Hamilton, *Professional Real Estate Development*, 43-46.

perspective is needed to fully understand the implications of such a new process in the course of history. A well known and exceedingly cited ancient Greek temple, the Parthenon, is over 2,000 years old. Consequently, large scale buildings have been designed, funded, built, and occupied for many centuries. Today, modern buildings within modern cities have been in flux with new technologies, ways of living, and global connections. New York City only began utilizing a power grid to electrify buildings beginning in 1882, only one hundred short years before the first academic pursuit in real estate development. As a result, the contemporary building stock, with mechanical systems, plumbing systems, electricity, elevators, and other emerging technologies have existed for an extremely short period of time. Should we consider the current finance and profit oriented role of the contemporary real estate developer as the best equipped to handle complex problems? Are we satisfied with the resulting built environment?

If we consider the fact that a developers underlying interests lie in the physical property, and if we also consider the developer as the creative generator of ideas, then why should a developer relinquish his or her vision to various design professionals that may or may not share or even be able to execute such ideas? Influential real estate professionals, such as Harry Macklowe, pictured in Figure 03.1, often speak passionately about the developers influence on a city skyline, on design issues, and on the physical form of the development. But the actual shaping of buildings is regularly delegated to other professionals causing miscommunication and confusion in the decision making process. This exact situation happens in practice almost inevitably as capital markets, lending institutions, investors, contractors, architects, the community, and the public at large exert constant pressure on the current practice of development. In addition, considerable amounts of risk born by the developer as the entrepreneurial figure in the process combined with associated guarantees and liabilities push development professionals to be primarily concerned with the financial outcome of a project.<sup>4</sup> These affects characterize the avoidance of the physical building as the primary responsibility of a real estate developer, allowing ineffective delegation of design responsibilities and poor execution of development activities into physical realities.

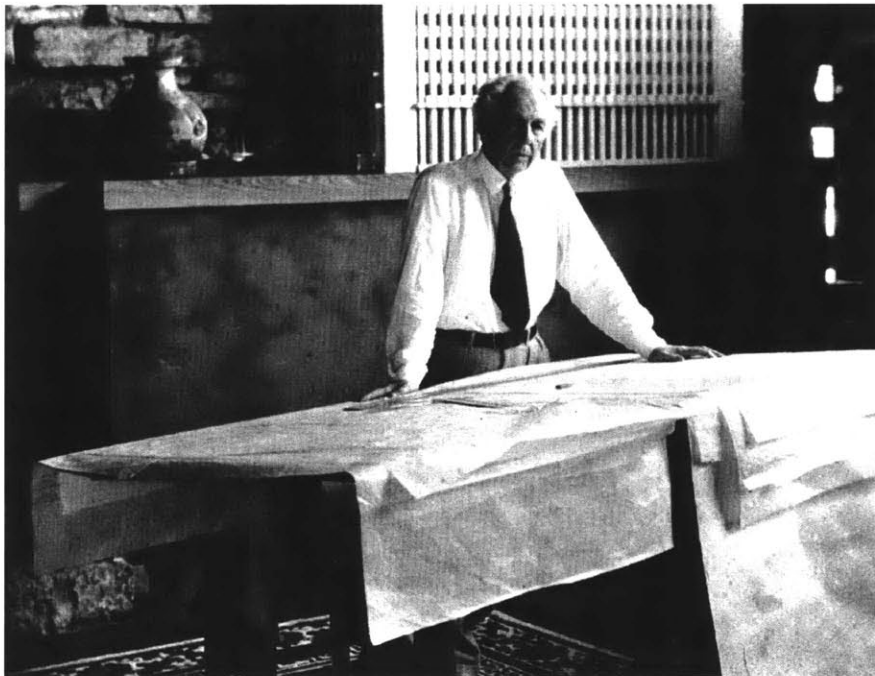


Figure 03.2 Frank Lloyd Wright, Architect in studio

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<sup>4</sup> Charles H. Wurtzebach, *Modern Real Estate*, 593.

## The Architect

Developers and architects do share similar qualities; each require a diverse skill set and the ability to coordinate and oversee a complex building process. This similarity reinforces the connection between developers and architects as the creative forces behind which the built environment is determined. In technical terms, the profession of architecture and the role of the architect within the development process is defined in greater detail and often established through legal contracts. These contracts are provided by the American Institute of Architects. "AIA Document B101, Standard Form of Agreement between Owner and Architect, clearly outlines the architect's duties in the development process and is widely used in real estate development."<sup>5</sup> The agreement outlines a ubiquitous three part design process; schematic design phase, design development phase, and construction documents phase. Schematic design culminates in drawings that depict the overall configuration of the development, including general floor plans, a site plan, perspective images, and an idea of materials and finishes. Often these drawings and images are used to secure investors and other financing facilities. The design development phase builds on the schematic design and adds detail to be used in development budgets, marketing materials, and investment offering packages. Most of the major design decisions ideally have been made by the end of design development, and any remaining decisions become expensive and difficult to manage.<sup>6</sup> The construction document phase is typically the longest phase, requiring intense coordination and accuracy of drawings that aid in the construction of the building. Ultimately, the majority of the architects impactful work has been done by the end of the construction document phase. In contractual terms, designers do not have any direct long term interest in the physical product, beyond limited construction administration up until the point of occupancy.

The standard form agreement outlined above, though widely used, fails to recognize the importance of the design process in relation to the developers goals, and presumably it should not. In essence, it is a legal contract crafted by the overseeing body of professional architects to reduce professional liability. As a legal contract, the document provides a useful starting point for negotiations between owner and architect and also has the backing of case law for the interpretation of the document. The standard methods of practicing architecture are a result of social, legal, and financial processes developed since the emergence of professionalization in architecture during the middle of the nineteenth century. Similar to professional real estate development, some perspective is needed to fully understand and properly analyze the current state of building. Previous to the late 1860s, architecture as a profession was unregulated.<sup>7</sup> The American Institute of Architects formed as a professional organization in 1857. Only a few years later, in 1865, the first dedicated curriculum of architecture was created in the United States, again at the Massachusetts Institute of Technology. The role of the architect has changed drastically over time.<sup>8</sup> At some points in history, the architect of a project acted as 'master builder' and was given full control over all issues relating to construction; including finance, design, and construction methods. At other times, the architect of a building was never recorded in history and left subordinate to a king or emperor. Over the course of many centuries, the majority of architectural practice has focused on clientele of the powerful and wealthy elite. Therefore, architectural history has concentrated almost exclusively on churches, temples, private houses, and civic buildings, where the value of architecture was 'design-as-art'.

This sense of timeless history and tradition of architecture as art has permeated contemporary architectural education and practice. Combined with the increasing complexity, technology, and building science within the built environment, architects typically are comfortable to concede proprietorship of the technical aspects of building to other consultants and engineers, falling back

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5 Peiser and Hamilton, *Professional Real Estate Development*, 44.

6 Peiser and Hamilton, *Professional Real Estate Development*, 44-45.

7 Cuff, *The Story of Practice*, 26.

8 Spiro Kostof, *The Architect: Chapters in the History of the Profession* (University of California Press, 2000), 14.

to the well established axiom of architecture as art.<sup>9</sup> There is a social reinforcement of this model, as architects are often pictured as sole genius artists, evidenced by Figure 03.2 depicting Frank Lloyd Wright contemplating issues in his studio. In more recent history, the definition and profession of architecture has generally been less established than other professions like medicine and law due primarily to the artistic and conceptual aspects of architecture. There is general recognition that buildings are not purely functional, that is, they are not completely defined by science or logic as with medicine and law respectively. This professional distinction, combined with other issues inherent to the current building process, has led to an environment where architects often employ the “art defense” and assume the role of artist as a means to retain authority and escape judgment.<sup>10</sup> This potential disconnect between architect and developer, or architect and final product, or architect and community, is a critical issue and often ignored. Upon completion of a project, all parties affected by the building process must eventually accept the repercussions, even if they are not obvious or perceived directly. Should we consider the legally dictated, technology driven, and historically influenced role of the contemporary architect as the best solution to our modern world? Are we satisfied with the resulting built environment?

The building is the main focus for architects, both in an abstract sense through the design process and in a practical sense as the culmination of drawings, ideas, and influences into a physical reality. As such, there should be a general concern about the tentative position that architects carry through the life of the building. Most commonly, architects perform design work on paper within a conflicted environment. Architects must battle the often contradictory notions of aesthetic beauty and functional design integrity with budget, time-line, constructibility issues, and external pressures from clients and contractors. This environment has created an architectural profession seeking minimal liability and deliberate specialization within building design-as-art. With an overall lack of leverage in the building process, the majority of the built environment is characterized by repetition and convention.

## **Expectations and Reality**

Given the prescribed roles of developers and architects today and the recent increased complexity of building systems, technology, and specialty consultants, the process of building is much more convoluted, ambiguous, and inconsistent than ever. Within a real estate development organization, consultants and specialists are continually engaged through the building process, including brokers, appraisers, attorneys, surveyors, engineers, designers, advertising agencies, property managers, public relations, market consultants, and many more all with interconnected and overlapping roles.<sup>11</sup> Architectural practice literature present lists of over thirty potential design consultants on a given building project, often under the leadership of an architect<sup>12</sup>. The definitions provided by the AIA of the architect’s role at various stages in the building process is by no means a systematic instrument which defines all building projects. In fact, the AIA provides the following disclaimer: “The AIA collects and disseminates Best Practices as a service to AIA members without endorsement or recommendation. Appropriate use of the information provided is the responsibility of the reader.”<sup>13</sup> Although it’s easy to dismiss the implications of prescribing certain functions within the process of building through a disclaimer, the results on the cultural and social constructions for the profession of architecture is significant. The role of the architect that has emerged is inherently paradoxical; they are responsible for “providing design” for a client while also emphasizing the design-as-art model that celebrates individual and autonomous creation. This enables the defective practice of “providing design”, a notion “as odd as a psychotherapist

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9 Cuff, *The Story of Practice*, 31.

10 Cuff, *The Story of Practice*, 37.

11 Peiser and Hamilton, *Professional Real Estate Development*, 40.

12 Cuff, *The Story of Practice*, 78-79.

13 *Defining the Architect’s Basic Services* (The AIA, 2007), 1.

providing mental health to the client, who by definition must take part in the curative process.”<sup>14</sup> Owners and real estate developers are not necessarily contributing any solutions to this problem. The developer has a difficult task of communicating and coordinating a variety of legal, financial, physical, and social constraints into a built reality. Conforming to the role of entrepreneur and adept business person, the developer stresses importance of contracts, financial projections, and construction budgets, but is reluctant to contribute directly to the subjective and purposefully vague world of design created by architecture culture. The prescribed roles place enormous importance on the delicate relationship between developer and architect, with very little being known about how to navigate and enhance these relationships.

It must be noted that there are impromptu and fortuitous circumstances where developer and architect foster a great partnership, evidenced by repeat collaboration and the presence of excellent buildings dotted through our urban environments. The John Hancock Center in Chicago, Illinois, depicted in Figure 03.3, serves as an example of aligned interests which create an excellent building. Creativity from architects and engineers resolved a critical development issue relating to the acquisition of an adjacent parcel while simultaneously creating an innovative real estate product.<sup>15</sup> The mutually beneficial goals of developer and architect inherently gain the approval of three interested parties. Approval from building users is required for the development to become a successful urban environment. Correspondingly, if building users are satisfied with the physical product, owners receive the requisite economic returns. Since the development was conceived as an innovative design solution to a development problem, the underlying architectural intent takes center stage and becomes celebrated by participants in the design process, including strong approval from the design community.

The John Hancock Center explicitly meets criteria that might describe an excellent building, but the development process of the Hancock followed the standard practice of isolated roles, with fortunate exogenous circumstances that led to the excellent building. This standard practice illustrates a duality within the building process. There are a series of expectations and prescribed roles that accompany specific professions. The real estate developer is responsible for financial performance of an asset and is often indifferent to design and spatial qualities. The architect is responsible for aesthetic design and detached from budget decisions, financial returns, and economic performance. Divisions of labor have been drawn and the current cultural ethos of the building process reinforces stereotypical roles and attitudes. However, neat and preconceived expectations are different from reality. Architects sometimes unexpectedly produce creative solutions to specific real estate problems, as was the case with the John Hancock Center. And developers continually engage in design considerations and continually exert influence and pressure on aesthetic issues, whether consciously or otherwise.

In fact, developers often engage architects only after numerous significant spatial and architectural decisions have been made such as building program, height, area, and stylistic preconceptions. The ultimate choice of an architect may rest significantly on cosmetic information such as images of previous work or other visual persuasions that would otherwise be produced through ubiquitous design competitions. Architects, from the moment a pencil touches paper, continually exert influence over the real estate economics of a building. The premise that architectural abstractions carry real estate implications is often ignored by all parties, especially during schematic design phases, and often the result is a troublesome value engineering process. Typical divisions of labor are reinforced, as the architect argues for design-as-art and the developer holds firm for economic viability. All while failing to recognize mutual responsibilities for each party. In theory, both developer and architect fail to achieve an even greater unrealized potential if economic and spatial interests are aligned.

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14 Cuff, *The Story of Practice*, 81.

15 “Fazlur Khan: Structural Artist of Urban Building Forms,” Princeton University, accessed June 25, 2016, <http://khan.princeton.edu/khanHancock.html>.

## Conclusion

In current practice, the best interests of all stakeholders of the building process are hanging in the balance. Popular opinion suggests that if the developer's vision is realized, the building will be a high performing investment but a poor contribution to the urban environment. Or if an architect's vision is realized, the resulting building will be beautiful but fail to meet the budget and provide appropriate financial returns. There is an obvious problematic issue of ownership that becomes evident as the differences between developer and architect are revealed. Who establishes the vision of the building? Is it possible to redefine interests as shared goals rather than tenuous compromises? Ultimately, the success of a building rests on the shoulders of the creative entities driving real estate development and the building process. As decisions about a speculative physical reality are made during the development process, developers and architects have the responsibility to make profound decisions; an office tower or a low-rise apartment block, a grand entrance lobby or a modest front door, a public garden or a private courtyard. The intertwined roles of developer and architect are widely recognized as a crucial relationship in the building process, but the true integration and alignment of interests are difficult to manage in current practice, especially due to the ad hoc formation of roles within the past century. Studies on "architectural mediators" have been produced in the past<sup>16</sup> and there are more and more architectural professionals being employed within development offices with an increasing awareness of the importance of good design. However, a third entity within an already convoluted and overlapping system of responsibilities might complicate the decision making process. At best, the third party is an arbitrating and reactive entity rather than a proactive process.

Developer and architect, and the complex relationship between, might be brought into better focus by stressing commonalities and similarities rather than stereotypical differences. The following chapters propose a new framework for building that is capable of dealing with the complexity of modern buildings, of capital intensive financial structures, of globalized urban environments, and of local circumstance with the goal of creating excellent buildings.

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16 Susan C. Lin, *Architectural Mediators: A Study of the Relationship Between Architects and Developers* (Thesis, Massachusetts Institute of Technology, 1990).





*Figure 03.3 John Hancock Center, Chicago, Illinois*

## 04 CASE STUDIES

To consider alternative practice models that might be applied in actual practice, the first step is to look for existing innovative methods in the marketplace. This chapter will illustrate three different companies and their innovative approach to the process of building. The case studies will not necessarily serve as an underlying logic to build a corresponding practice model in the following chapter. Rather, the case studies provide an alternative perspective upon which to understand the process of building. Second, they explore the holistic range of professional skills that are utilized in the development process and analyze how they are combined in certain scenarios. Each innovative practice varies in size and capability, varies in strengths and weaknesses, and the process of development itself is variable depending on location, product, financing, and other exogenous conditions. However, the analysis of innovative practices highlights certain underlying principles that guide the development process to create excellent buildings.

The following multidisciplinary development companies are innovative prototypes and thus do not fit the mold of the prevalent process of building. The companies vary in size, location, expertise, and overall business model, but each practice uniquely combines certain skills to gain a competitive advantage over other traditional practice models.

### **Guerrilla Development**

Guerrilla Development is based in Portland, Oregon, and numbers under ten employees. The practice has a primarily local focus and typically takes on smaller scale projects in underdeveloped neighborhoods. The small team takes on various roles throughout the development of each project and has specific skills in architectural design and development of real estate. Specifically, the practice focuses on the concept that good design and good financial returns are not mutually exclusive.<sup>1</sup> There is no typical development project that the practice undertakes, with product types ranging from residential loft renovations to micro-restaurants to tech office space. The concept that development itself is a highly creative and design oriented process is at the heart of the practice and the synthesis of the development entity with strong architecture and design skills enable the practice to take on the risk of innovation.

Guerrilla Development has focused on a few main principles in the pursuit of a business model that stresses the creative side of development and with an emphasis on design innovation and quality. First, the practice acts at a very local scale. The sites that are chosen are well understood and the conception of each real estate development project is highly attentive to local conditions. Additionally, due to the practice's strength at small scale development ventures, the understanding of local lending markets, politicians, neighborhood advocacy groups, and overall demand metrics provide an edge. Second, there is an emphasis on the long-term nature of the real estate asset. In an interview from 2016 in a local Portland publication, Kevin Cavanaugh, the founder of the company stated, "These buildings will be around much longer than any of us. Think in terms of 100-year investment, not 18-month exit strategies."<sup>2</sup> Often acting as owners and property managers, it is in the best interest of the practice to create physical real estate that has an enduring value and

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1 "Guerrilla Development," About, accessed June 7, 2016, <http://guerrilladev.co/about/>.

2 Wm. Stephen Humphrey, "Kevin Cavanaugh's Art of Risk" *The Portland Mercury*, April 13, 2016, <http://www.portlandmercury.com/the-design-issue-2016/2016/04/13/17874598/kevin-cavenaughs-art-of-risk>.



*Figure 04.1 Guerrilla Development's "Fair Haired Dumbbell", Portland, Oregon, 56,000 square foot speculative office building*

positively contributes to the local setting in which it exists. Finally, the practice is highly interested in representing the community. Typically there is a mixed-use component to their developments, fostering an intimate and dynamic interaction between building owners, operations, tenants, visitors, and residents. The engagement and improvement of the community becomes an equally weighted performance metric alongside design quality and financial returns.

Within the practice model of Guerrilla Development there is a specific and strategic alignment of the development process, the real estate product, and the local Portland market. The development process is design lead and open source, with financial proformas and architectural drawings available on the company's website. This practice culture reflects the unconventional and inventive nature of the Portland neighborhoods where the developments are located. The practice leverages its unique and personal relationship with the communities that they engage with. As a result, there is a greater threshold for development creativity and ambition that naturally gains support of the general public. Most recently, Guerrilla proposed a commercial office building with an unconventional appearance and funding structure. The development entitled "The Fair-Haired Dumbbell", depicted in Figure 04.1, is a unique speculative office development that incorporates Portland's funky and creative vibe on the building's exterior. Architectural interests are aligned with market demand and building users, while project returns are advertised in open source development proformas and crowd-sourced funding platforms.

## **Optima**

Optima Development is a full service development, architectural design, construction management, sales and leasing, and property management organization headquartered in Chicago, Illinois as listed on their website.<sup>3</sup> The practice is largely a family lead business, with David Hovey Sr. starting development ventures in the Chicago area in the 1980s. Since then, the practice has

<sup>3</sup> "Optima" About, accessed June 10, 2016, <http://www.optimaweb.com/corporate/company/>.



*Figure 04.2 Optima Old Orchard, Chicago, Illinois  
Apartment complex*

expanded to other locations in the southwest United States, primarily in Scottsdale and Phoenix, Arizona. David Hovey's son, David Hovey Jr. has taken a prominent role in both the development and design capacities of the practice. The full service aspect of the practice is performed with all of the companies' projects, acting as the developer, the architectural design firm, and the general contractor. This practice model holds true even on large scale, complex high rise projects, located in the urban core and surrounding areas of Chicago.<sup>4</sup> Figure 04.2 shows a sprawling and interconnected high rise rental apartment complex adjacent to wooded nature preserve. Unlike most other developer-architect practice models, Optima is able to pursue very large scale projects, including the Optima Camelview Apartments, shown in Figure 04.3. The development consists of eleven interconnected residential buildings across a thirteen acre site in Scottsdale, Arizona. A key feature of the project is the terracing balconies and ample amount of lush landscaping integrated into the structure. Throughout each building, private landscaped space is provided to every single resident. There is a clear priority for design goals, such as the integration of the natural landscape into the physical structure. The exceptional results are difficult to dispute; the project received a prestigious housing award in 2012 given by the American Institute of Architects.<sup>5</sup> These design goals, however, importantly align with real estate investment goals. The integrated landscaping and private outdoor terraces provide a competitive advantage over other real estate products in the area. This advantage acts as a hedge against market risk and helps to ensure long term stabilized returns.

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4 "Optima Issued \$82 Million Building Permit for 54 Story Streeterville Tower," Chicago Construction News, November 29, 2015, <http://chicagoconstructionnews.com/optima-issued-82-million-building-permit-for-54-story-streeterville-tower/>.

5 "AIA Housing Awards" American Institute of Architects, accessed June 11, 2016, <http://www.aia.org/practicing/awards/2012/housing-awards/OptimaCamelviewVillage/>.



*Figure 04.3 Optima Camelview, Scottsdale, Arizona, Interconnected Apartment Buildings*

It may be possible for a developer to find an architect to deliver a similarly spectacular architectural space that is highly marketable to customers. However, the integrated design, construction, and financing of the project provide delivery of the product at a controlled cost. Though the cost metrics of Optima's practice model are difficult to compare against other more traditional development processes, David Hovey Sr. specifically explains that their practice model provides an edge, "We have a paradigm for how we do things. We try to find the absolute best location and design the best possible building for the site. Then we sell it at a lower price than anyone else could."<sup>6</sup> Ultimately, Optima has focused on the delivery of residential real estate products and leverages the design skills within the practice to adapt typologies and marketable design to a wide variety of sites. In addition, integrated construction management ensures cost control and the delivery of quality buildings. Optima is a uniquely successful innovative practice that has somehow escaped much attention from professional organizations and public opinion. David Hovey Sr. is a Fellow of the American Institute of Architects and has received many other design awards. He has also spearheaded the economic success of many development ventures over the past thirty years. However, the overall weight of current practice and the status quo allocates little interest to a highly successful model.

## **DDG Partners**

DDG Partners is an investment and real estate development company with locations in New York City, San Francisco, and Florida. The integrated practice was founded in 2009 by an architect, a developer, a lawyer, and a private equity investor and the leadership structure of the company reflects the multidisciplinary nature of the practice.<sup>7</sup> The company services cover all aspects of

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<sup>6</sup> Jean Murphy, "Architect Design Dramatic Spaces," Daily Herald, March 21, 2009, <http://prev.dailyherald.com/story/?id=279876>.

<sup>7</sup> "DDG Partners," The Real Deal, accessed July 12, 2016, <http://therealdeal.com/new-research/topics/company/ddg-partners/>.



Figure 04.4 DDG Partners' 345 Meatpacking, New York City, New York, Condominium building

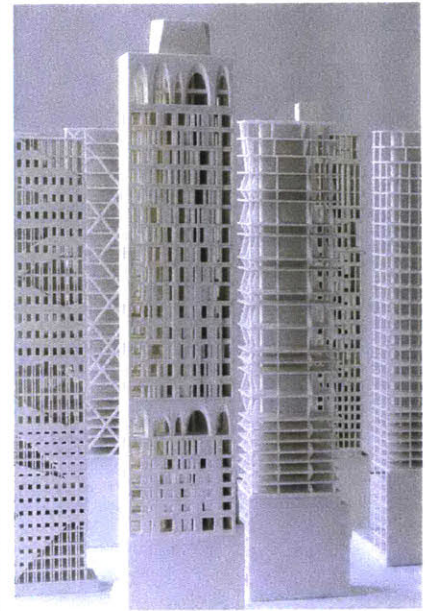


Figure 04.5 DDG Partners' study models

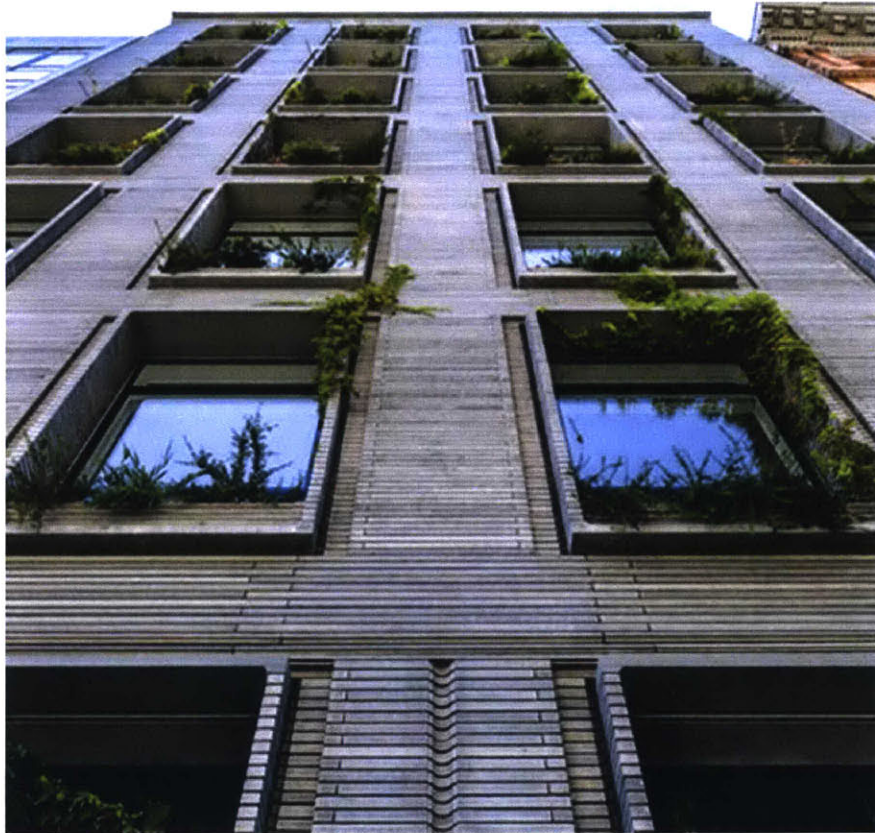
investment, development, design, construction, and asset management and seeks to utilize a strong multidisciplinary team to set a high standard of quality for their development products. Initially specializing in boutique, high-end condominium projects in Manhattan, the company has expanded the scale, type, and location of its development ventures. Though capable of providing the full array of services on every project, the flexibility of the practice enables partnerships with other firms, utilizing only a portion of the full business model in some cases.

The projects that DDG typically pursues fall within the residential category and all of their developments are multi-family products. Especially for projects located in Manhattan, they are catering to the top of the market with luxury condominiums dominating their portfolio. The execution of the built work showcases design quality and the emphasis on expensive materials, elegant details, and rich interior finishes caters to the luxury buyer. The full service aspect of design, finance, and construction is delivered exclusively in New York City, the location of the main office. For projects in California and Florida, the company typically partners with local design architects and contractors. The practice is capable of executing a variety of residential building typologies and scales. Projects range from high rise towers on the Upper East Side of Manhattan to infill projects in Tribeca. Across all projects, there is a strong emphasis on craft, design, and creativity. This attitude of uniqueness and quality is reflected in the character of the built work and provides a strong identity for investors and customers.

An influential portion of their practice model comes in the form of their real estate investment and asset management capabilities. Though DDG Partners is a sophisticated developer, they also operate in the private equity business and have greater access to high net worth individuals, lenders, and institutional investors. DDG even acts as "the exclusive real estate investment affiliate for a select group of high net worth family offices."<sup>8</sup> In large part, the practice relies heavily on the exclusive access and familiarity with potential luxury property buyers, providing greater openness to

8 "Full Service Real Estate Company," PR Newswire, September 10, 2009, <http://www.prnewswire.com/news-releases/full-service-real-estate-company-ddg-partners-llc-announces-acquisition-of-ground-up-development-sites-at-41-43-bond-street-62136117.html>.

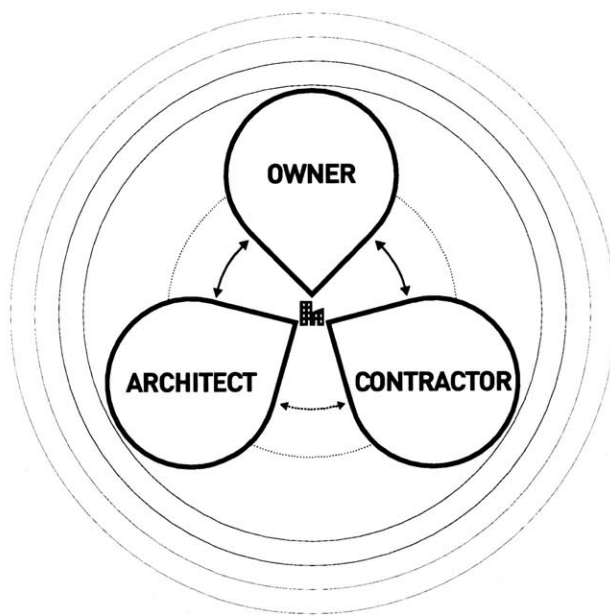
the high end condominium market. The advantageous relationship with investors is strengthened based on high quality and comprehensive services, allowing greater trust and confidence in the eventual success of proposed developments. The in house design and construction capabilities ensure that the completed real estate product meets the demand of the market and potential buyers while also providing lofty economic returns and advancing design quality.



*Figure 04.6 DDG Partners' 41 Bond, New York City, New York,  
Full floor condominium residences*

## 05 CONVERGENT MODEL

Before arriving at the new practice model for development, a careful analysis of the typical model of development is necessary. Figure 04.1 shows the ubiquitous three party diagram of owner, architect, and contractor. The owner in most commercial buildings is the real estate developer. The developer is typically a profit-oriented entity that may or may not have long-term interest in the completed building. The architect is hired by the owner and performs architectural services that usually encapsulate a set of engineers and numerous consultants.. The contractor is also hired by the owner and typically takes the form of a general contractor or a construction manager, where in both cases there are numerous subcontractors who perform actual works on site. In the building industry, comprehensive meetings for all parties in the development process typically take the form of OAC (owner-architect-contractor) meetings, further reinforcing the segregation of the three parties. The OAC meetings imply and reinforce a fictionalized three party agreement, where in standard practice there are only legal contracts between owner and architect, and owner and contractor, depicted in Figure 05.1. It is important to note that the varying stakeholders, discussed in previous chapters, are absent from this simplified diagram.



*Figure 05.1 Fictionalized Practice Diagram*

Figure 05.2, like owner-architect-contractor meetings, maintains the implicit organizational structure found in typical practice but also adds the numerous consultants, professionals, and other stakeholders directly associated with the building process. Upon further examination and added detail, this organizational structure is certainly not as simple as originally conceived. The numerous parties that exert direct influence on the owner, architect, and contractor are never



neatly segregated. The following examples illustrate the problematic nature of the original simplified practice model. An architect might have direct and formal influence on the marketing department within a development company, having input on branding and marketability of the build product. Similarly, a developer's real estate broker might inform the interior designers of the highest value residential unit, thus directly manipulating the layout and architecture of the built product. A contractor might be heavily constrained by a local material supply which would potentially directly influence a building design, from the structural system, to the exterior curtain wall, or to the interior finishes. Even though the architect has no contractual relationship to the contractor, the discussion of materials, systems, and finishes is usually an ongoing deliberation throughout the development process between the two parties. A structural engineer is often in close dialogue with the concrete subcontractor, though the contractual link between these two parties must flow through the lead architect, to the owner, back to the contractor, then to the concrete subcontractor. Since the contractual complexity prevents ease of functionality, there are always informal connections between all parties involved in the development process regardless of legal responsibilities.

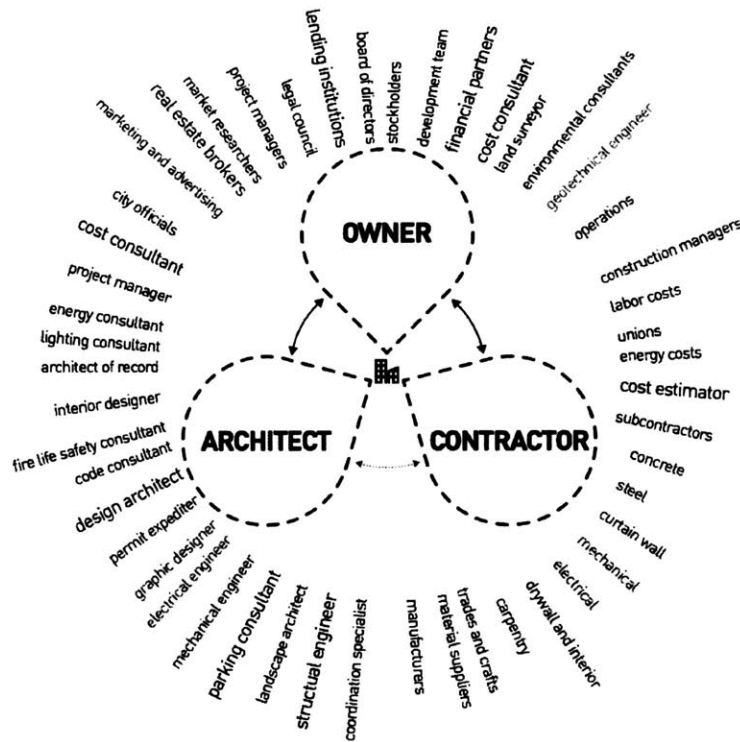


Figure 05.2 Interested Parties in the Development Process

The typical delivery method for the majority of large scale commercial buildings take the form of design-bid-build. This typical delivery method embodies the abstract and rigid division between owner, architect, and contractor and was the result of gradual evolution of increasing building complexity and a professional resistance to added responsibility and risk. The contractual consequence is the widely used AIA Standard Form Agreement B101, between owner and architect, and the AIA Standard Form Agreement A101, between owner and contractor. This risk-averse model of development does not consider the interconnected influences from the numerous stakeholders in the development process. Recently, the building industry has started to focus on delivery methods that differ from the typical model described by the owner, architect, contractor diagram. Design-build models, turnkey development teams, construction managers, and

“Build-Operate-Transfer” organizations are becoming more prevalent procurement methods in a competitive market. These methods attempt to better handle the complexities of modern building, but each has its own strengths and weaknesses and are typically relevant to specific project types. Importantly, most new delivery methods underline the changing nature of the process of building and highlight key principles in the development process.

The idea of a new practice model for development should be explored, especially given the complex and distorted process of building that currently exists. A more realistic picture of the current development process is necessary, rather than the fictionalized, arbitrary, and antiquated model of owner, architect, and contractor. Figure 05.3 describes a more accurate picture of the current process of building. The owner, or developer, is placed at the center of the diagram. Regardless of legal contracts and areas of expertise, the developer is often the most influential party at the center of many facets of creativity, entrepreneurship, business, and the built environment. The position of great influence and decision making power is not gained by chance and does not imply an unfair distribution of authority. The developer takes on the most risk through the process of development, design, and construction and therefore has the most to gain or lose as well. The developer typically has documented contracts with legal counsel, financial partners, architects, and contractors, represented by solid line arrows in Figure 05.3. The developer is informally responding to community groups and the general public opinion in addition to meeting the requirements of regulatory and government bodies. Though there is not necessarily a written contract between the developer and the city and community, a particular development needs regulatory approvals and general support from the public. Profit motivated development ideas come into direct engagement

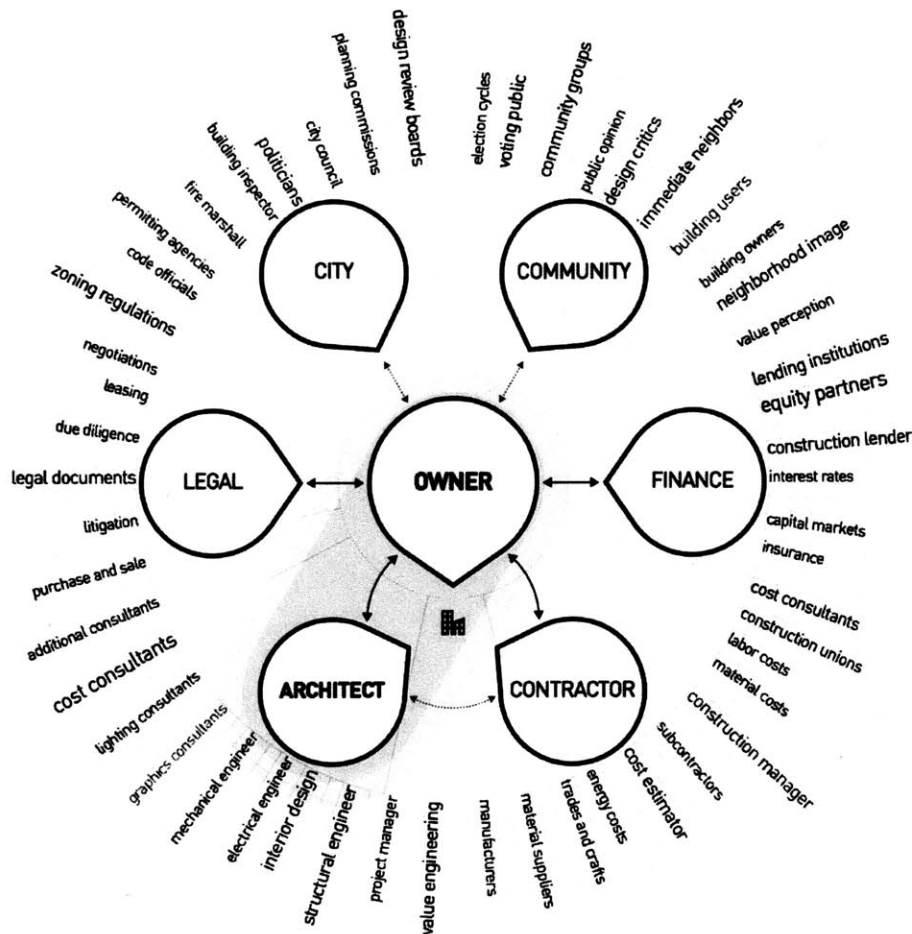


Figure 05.3 Developer and Architect as Creative Forces

with civic, neighborhood, and political concerns beyond the technical, functional, and aesthetic issues of the physical building. Figure 05.3 represents the complex arrangement of forces that influence the built environment and attempts to accentuate the overlapping and complex roles of stakeholders. However, an important distinction must be made to move into a new practice model of development. In Figure 05.3, the highlighted gray area represents the creative forces that drive the development process.

The process of building is composed of numerous stakeholders and it is often easy to get lost in the complicated arrangement of entities. Ultimately, the developer and the architect provide the basis for creating a vision for the built environment that otherwise does not exist. This creative process is difficult, non-linear, iterative, and produces results that are often impossible to objectively quantify and qualify. Though the developer and the architect have historically had differences and gaps in communication, the new practice model for development realizes that this relationship must be fused into one entity to truly align interests during the development process. Architecture that recognizes the economic importance and considerations of buildings does not need to equate to value engineered and unimaginative urban objects. Additionally, a financially successful building that demands high rents and provides generous returns should have the ability to engage cities, establish community, and improve neighborhoods.

Figure 05.4 provides a framework for a new practice model of development, the Convergent Model. The architect must take a greater and more invested role in the success of a building, rather than being considered one of the many consultants or reactive contributors to the development process.

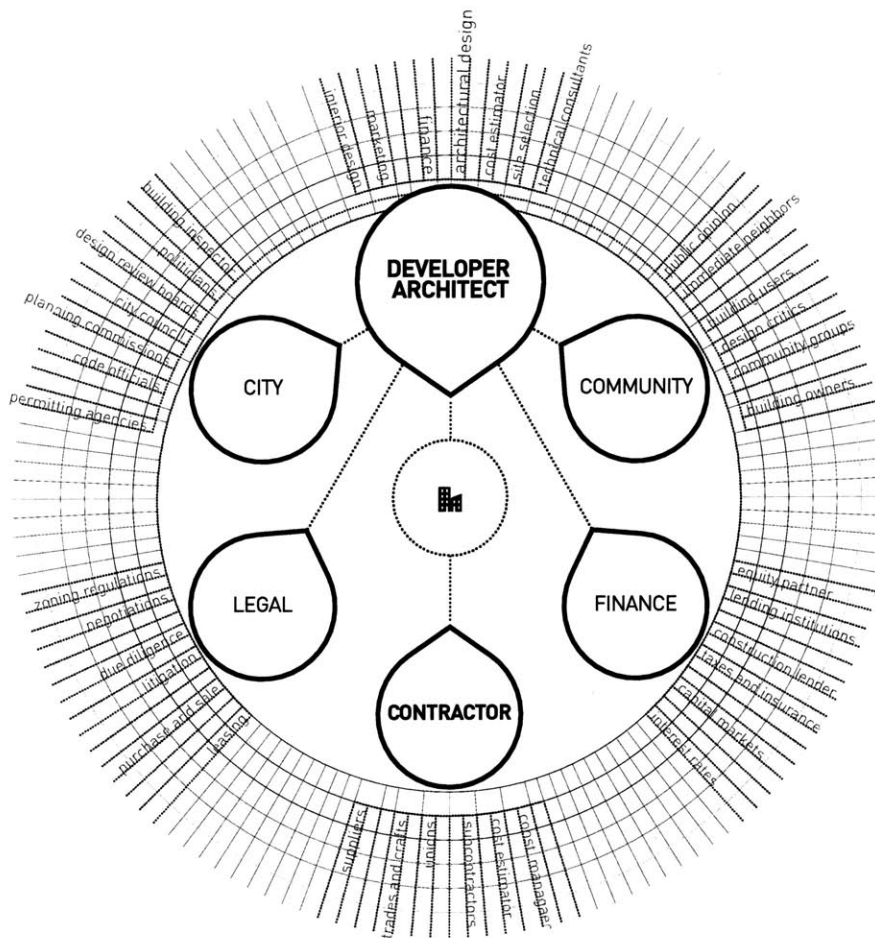


Figure 05.4 Convergent Model

The architect must fully recognize the importance of their creative force on the built environment and take on the relevant amount of responsibility, and risk, for their actions. In the Convergent Model, the architect grasps the opportunity to truly shape the built environment rather than continuing to reject responsibility in favor of reduced risk and liability. Additionally, the developer must fully embrace the importance of design on the long-term success of their real estate portfolio. The developer must accept the overall success of the built environment as mutually beneficial to their individual real estate products and others, rather than developing buildings in a defensive and risk mitigating manner. In the new practice model, the developer trusts in the value of good design and the creation of excellent buildings as a form of development that controls risk by providing desirable places for people to live, work and exist in an urban environment. The developer-architect practice model is formulated to deal directly with the complexity of building in modern urban environments and aligns interests across all parties. Figure 05.5 is a graph depicting time on the horizontal axis and ability to influence cost over the development period on the vertical axis. In the early stages of the development process, there is greater potential for impact with relatively low costs. As the development process moves towards construction, changes become more expensive and tricky to manage. Additionally, Figure 05.6 depicts the overall costs of a building over 50 years. Only 15% of total building costs are concentrated in the development and initial construction period. Of the 15% of costs, only about 7% is allocated for design fees. With the relatively low costs and significantly powerful impact of design, there is further justification to value design thinking in the development process.<sup>1</sup> These graphs illustrate that time and design effort should be front loaded, however, this rarely occurs in actual practice. The Convergent Model is organized to invest in design early in the process, fully leveraging the concepts depicted in Figure 05.4 and Figure 05.5.

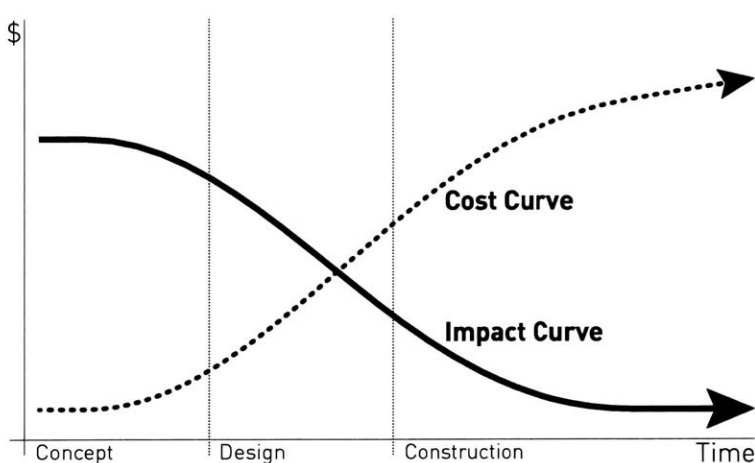


Figure 05.4 Cost vs. Time during Development

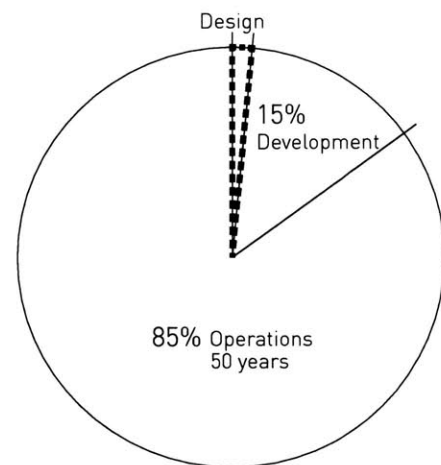


Figure 05.5 Total Building Costs

The Convergent Model demystifies and simplifies the organizational logic that underlies the development process. Rather than inherit an outdated and fictionalized three party system, the new practice model attempts to truly consider the power and influence of new technologies, enhanced methods of communication, and collaborative work environments. A clear organizational structure emerges where the developer-architect exists as a single, qualified, forceful, and capable decision making entity that drives the development process. The developer-architect is inherently responsive to the many consultants, regulatory bodies, and stakeholders that still exist within the Convergent Model. The developer-architect must respond to the political environment that exists for a proposed development, with significant amounts of capital, time, and effort put forth

<sup>1</sup> Chris Gordon, "Innovative Project Delivery" (Lecture, Massachusetts Institute of Technology, February 2, 2016).

to realize the construction of a new building. The developer-architect also must respond to the opinions of the general public, as the resulting building must be rented, bought, leased, and used by the market that it exists within. The developer-architect must produce a physical structure that provides financial returns to equity investors on all levels, including internal returns to keep the company moving forward, pay salaries, and cover operating expenses. The developer-architect must establish working and collaborative relationships with contractors to realize the finished building and ensure a quality built project. Rather than including contracting within the umbrella of the Convergent Model, the developer-architect engages with contractors in an open market, creating true competition for construction services.

## **Five Principles of Excellent Development**

Five principles of excellent development are based on the shortcomings of current practice, the highlights of innovative case studies, and the strengths of the Convergent model. The principles guide the development process towards the creation of excellent buildings.

### **1. Establish development as a local practice.**

Real estate developers must act on a local level. The complex organization of stakeholders described in previous diagrams must be accounted for on a local level. Though equity investors often come from international and non-local entities, there is always a local presence to drive development to completion. The realities of the modern practice of architecture create an environment where international architecture firms are designing building all across the world, often with little connection to the specific location of the project. By aligning the practice of development and architecture, the creation of the built environment is inherently a local practice, leading to greater community support and culminating in a more successful urban environment, as evidenced by Guerrilla Development in Portland. Building design is more responsive to a specific locale and there is less incentive to duplicate previously successful generic real estate products across different neighborhoods and cities. Additionally, more localized projects and the creative development and architecture practices behind them will be more invested in the community and consider a much longer time horizon for each contribution to the built environment.

### **2. Conduct development with a long-term focus.**

Architects often consider the entire lifespan of a building, from exterior materials through mechanical systems and overall building orientation. However, their influence beyond the initial conception of the building is limited to the design phase and is extremely susceptible to cost-cutting measures and value engineering. Though architects have good intentions of creating timeless and enduring structures, the reality of many other powerful influences on a real estate strategy reduce the impact of design. The strongest influence on the longevity of a building design comes from the real estate owner, who has monetary stake in the systems, materials, and structures that substantiate a real estate product. Though there are building owners and developers who often look to quickly sell assets, long term planning must be initiated by the development team. By combining the skills of the design profession with a development strategy that considers the entire lifespan of a building, the greatest value for long-term planning may be realized. The ownership entity is more capable of leveraging finances for sustainable technologies, durable materials, and building systems that have a positive long term impact. More importantly, the creation of a real estate development project is inherently more interested in the success of a particular neighborhood. Individual buildings respond to street life and utilize urban space as an amenity, rather than create privatized and restricted buildings. Each building takes more responsibility to positively contribute to the urban environment and each building fully embraces the concept that the success of a neighborhood, and the city overall, is mutually beneficial to commercial real estate ventures.

### **3. Engage development with the community.**

Real estate developers are often portrayed as greedy and profit oriented organizations that have little regard for the voices of the community. However, in order to progress through the development process, the physical form must integrate and contribute to the immediate context. Architecture that is considerate and acknowledges the urban context of the neighborhood represents development that limits exogenous risk factors by appealing to the emotional and social needs of the community. The developer no longer feels anxious about design review panels or defensive at community board meetings. The community goals of development align with the financial return metrics proposed by the developer and promised to equity investors. Additionally, the more comprehensive viewpoint of development would consider the positive impacts of a potentially excellent building as beneficial to all stakeholders, not just those with direct leverage in the project, as seen with Optima in Arizona, where the track record of excellent development satisfies tenants, fully compensates investors, improves urban environments, and creates a pipeline of future projects.

### **4. Practice development as a comprehensive design process.**

Contemporary developers typically assign design tasks to other qualified professionals and never acknowledge the significant design moves that real estate professionals inherently make. Real estate developers choose a site, use market data to come up with a building program, determinate appropriate heights and square footages, and reference previous projects to strengthen an argument to create a new building. These decisions alone account for a great deal of the design process before an architect or any other design professional may ever be involved. Often, the developer has already created a program and rough building massing to hand over to a design professional to execute a vision. These early stage decisions must not be taken for granted and they must be fully recognized as design decisions requiring design thinking. Regardless of financial structures, lending environments, and capital markets, the developer is primarily responsible for the realization of a physical structure to create value. Therefore, the design process begins from the moment a site is being considered for development and continues through the lifespan of a building.

### **5. Development is architecture.**

Real estate development emerged as a true profession, beyond entrepreneurial business ventures into a dedicated industry complimented by professional educational programs, only in the last century. Architecture has primarily been practiced as an art, specifically for the wealthy elite, for the majority of history. Outdated practice continued over the past century even when buildings became more technologically advanced, more interconnected to the fabric of urban life, and more fully mature as investment vehicles. Developers and architects continue to operate based on out-dated models, inherited from previous models that continue to become obsolete as building technology changes, as financial markets become more globalized, and as cities depend more heavily on the comprehensive success of the urban environment. For the first time in history, the population of cities has outnumbered the population of rural areas.<sup>2</sup> Therefore, the success of cities is critically important to the future of humanity. Architecture was once described as the “will of an epoch translated into space.”<sup>3</sup> Today’s epoch consists of a global network of complex economic, social, and urban realities; the development and realization of the built environment is inherently and directly immersed in these issues. And today’s epoch must also be translated into built reality through a practice model that is capable of handling such complexity. The independent practices of development and architecture are redefined and integrated within the Convergent Model to appropriately engage stakeholders and align interests in the development process.

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<sup>2</sup> *World Urbanization Prospects* (New York: United Nations Publishing, 2014), 7.

<sup>3</sup> Mies van der Rohe, “Architecture and the Times,” *Der Querschnitt* (1924), translated from German by Philip Johnson, Museum of Modern Art (New York, NY: 1978).

## Summary

The Convergent Model and the goal of the five principles of excellent development may be applied to all real estate products and all building types. The goal of the organizational structure is to recognize all stakeholders and provide a clear decision making process to guide the development process. The skills of the developer and the architect are synthesized into an innovative entity that has the ability to take on a wide variety of challenges within the urban built environment. These challenges include all types of multi-family residential buildings, commercial office buildings, university and cultural buildings, and other civic and infrastructure related physical constructions. The practice model in action may take on the role of standalone private developer, of comprehensive developer with an institutional partner, or of public-private partnerships with cities and government bodies. For example, the practice may provide services to a university to develop, design, and build a single building or portions of a campus. Additionally, the practice may work directly with city level government entities to improve urban environments and take on difficult development challenges that would otherwise be impossible to pursue as just a public policy agency, just a private development company, or just an architectural services practice.

The following chapter serves as a conceptual thesis project to analyze and illustrate the Convergent Model in action. The five principles of excellent development will be of particular importance for the process. These principles both highlight the goals of the Convergent Model and also stand in stark contrast to existing practices. Finally, the principles provide assurance that development has the primary goal of creating excellent buildings and improving the built environment.

## 06 DEMONSTRATION PROJECT

The following chapter will apply the new practice model for the process of building, entitled the Convergent Model, to a theoretical project. The project is located on a real site in Chicago, adjacent to Lake Shore Drive in the Streeterville Neighborhood. This project will be referred to throughout the chapter as the "Proposal". To further illustrate the Convergent Model for development, the Proposal will be compared against a baseline condition, which is a real development project located at the previously referenced site and completed in 2013. This building will be referred to as the "Baseline". The Proposal assumes the same exogenous conditions for the design and development process, construction period, and stabilization as the Baseline development and attempts to consider the internal processes of development.

The purpose of the demonstration project is to explore a scenario for development practice that is consistent with the five established principles from the previous chapter. Presumably, this will enhance the potential to produce excellent projects by aligning the goals of key actors in the development process. In an effort to isolate the merits of the new model for development, the following conditions will be assumed equal for both projects, ensuring neutrality for factors beyond the specific practice models in each scenario.

### Site Conditions

The property sits within the Streeterville Neighborhood, an affluent residential neighborhood situated just north of Chicago's central business district, "the Loop", and the sprawling 319 acre Grant Park on Lake Michigan. Retail, shopping, restaurants, and entertainment is focused along the Michigan Avenue "Magnificent Mile" corridor located two blocks west of the property. In addition, Chicago's famous Navy Pier and its collection of attractions are within walking distance underneath Lake Shore Drive. The context of the surrounding built environment showcases many high end residential towers. The neighborhood was built up over time beginning roughly with the construction of two signature buildings, Lake Point Tower and the John Hancock Center in the late 1960s. The neighborhood is also home to Northwestern University's Chicago campus, including the School of Medicine and Northwestern Memorial Hospital. With attractions, amenities, and lifestyle of downtown Chicago living in addition to direct access to jobs and services from the Loop, the Streeterville Neighborhood, and the project site in particular, exemplify a prime development opportunity.

Surrounding vacant parcels have been built up with new residential developments following the most recent recession starting in 2008. Developments in the area take advantage of exceptional views in all directions; especially Lake Michigan to the east and the downtown Chicago skyline to the south and west. In particular, the project site has an added benefit of no new high rise construction between Lake Shore Drive and Lake Michigan, guaranteeing plentiful natural light to eastern facing units and uninterrupted views towards the lake. The presence of nearby amenities and entertainment provides a highly walkable urban environment and also ensures safety and convenience for residents. But there are some inherent challenges with the site because of the presence of Lake Shore Drive and visitor traffic to entertainment and other attractions. Circulation around the site and access to the development must be thoroughly considered, providing ease of building access to residents and visitors while also ensuring minimal disruption to the traffic flow past the building. In essence, the property must be a controlled and safe environment and also



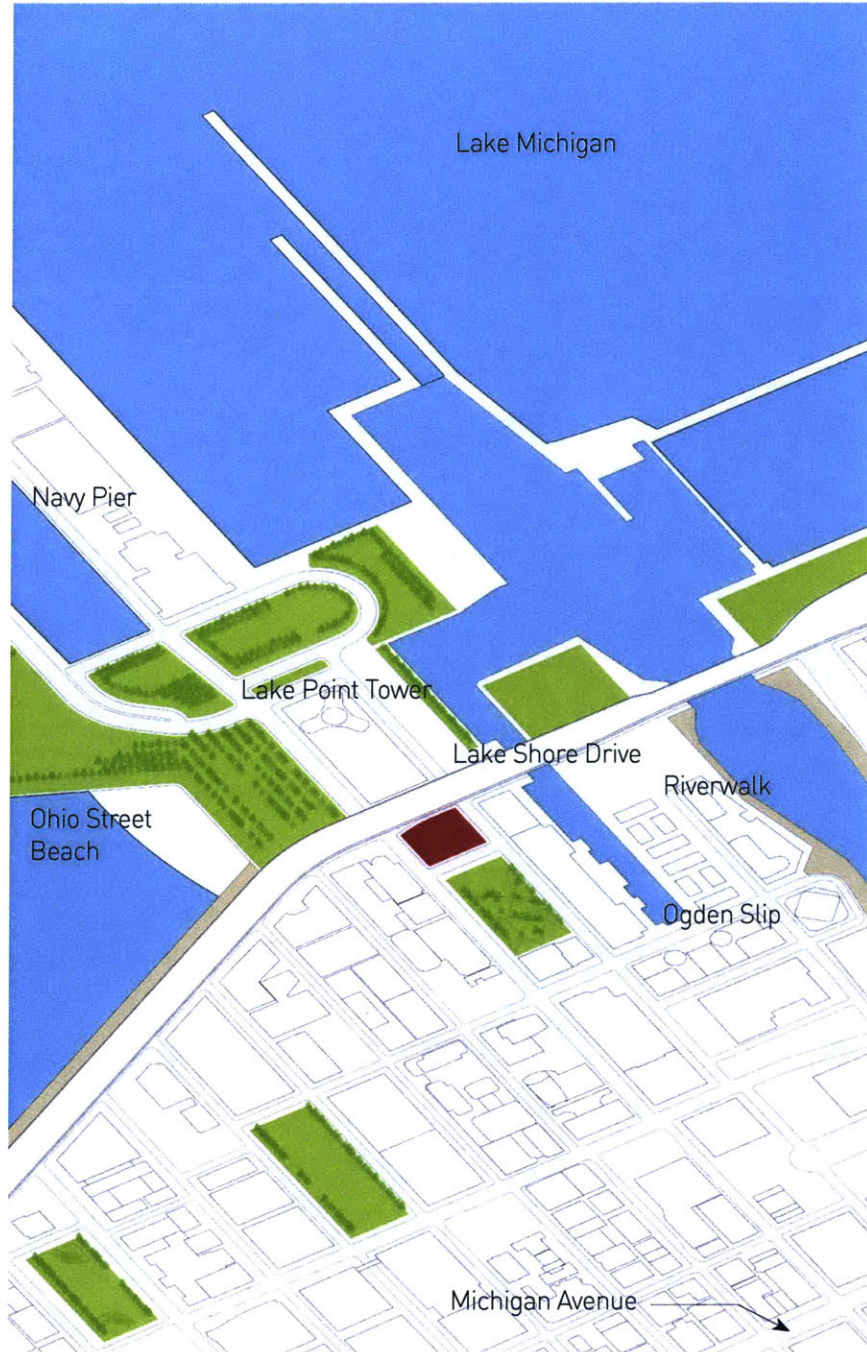
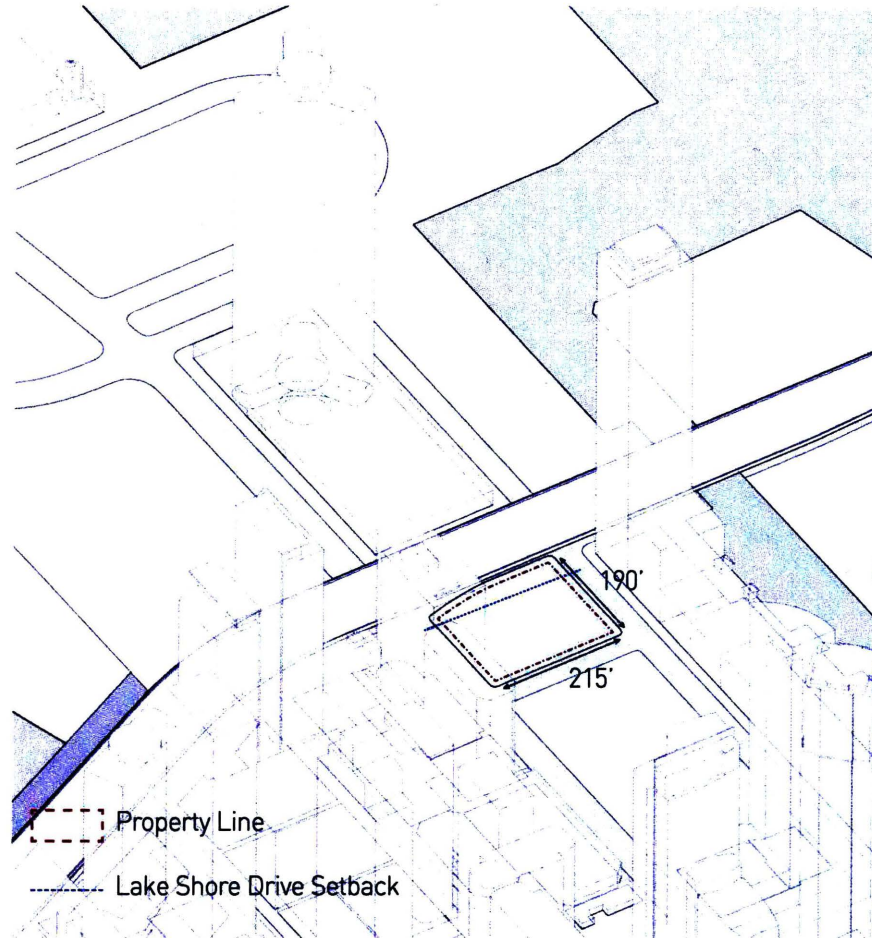


Figure 06.1 Site Context



*Figure 06.2 Site Dimensions*

double as a vital component of the pedestrian sequence to Navy Pier, one of Chicago's most visited attractions.<sup>1</sup> Multiple bus lines travel in the east-west direction along Illinois Street and Grand Avenue adding to the traffic and circulation congestion. Building entrances, parking entrances, ground floor retail, and passerby traffic all must be skillfully balanced.

The project site is roughly 215 feet by 190 feet in overall property dimension, with a 40 foot tower setback on the eastern edge of the property due to the adjacency of the elevated Lake Shore Drive, illustrated in Figure 06.2. The site has frontage to the south on Illinois Street, with one-way automobile traffic moving west to east under Lake Shore Drive and out towards Navy Pier. Illinois Street also is a heavily trafficked pedestrian route connecting Michigan Avenue retail with grocery stores, restaurants, cinemas, and paths towards Navy Pier attractions and the waterfront. Grand Avenue borders the north side of the site and provides one way vehicular traffic on the opposite direction, east to west. Grand Avenue also connects to Michigan Avenue, though with less emphasis on retail and pedestrian activity. Peshtigo Court provides street frontage on the west side of the property. The eastern edge of the property is dominated by the presence of Lake Shore Drive, an elevated eight lane thoroughfare running along a majority of the city's lake front. Additionally, there are off-ramps and on-ramps connecting Lake Shore Drive to the city street grid at ground level. Figure 06.3 depicts the complicated circulation patterns around the site.

<sup>1</sup> "Top 10 Tourist Attractions in Chicago," Touropia, accessed June 30, 2016, <http://www.touropia.com/tourist-attractions-in-chicago/>.

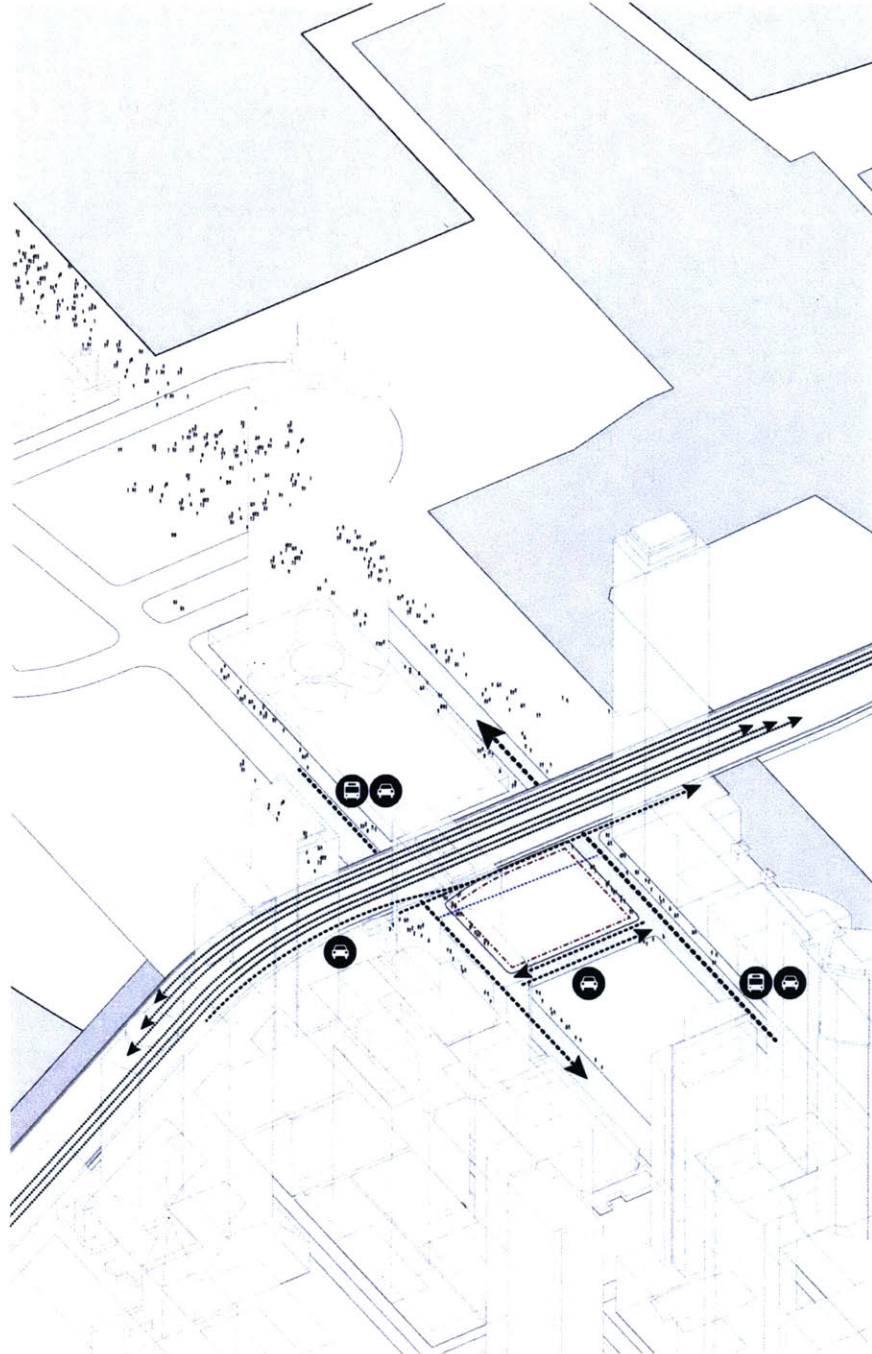


Figure 06.3 Site Circulation

## Development Assumptions

The Proposal assumes site acquisition in early 2010 with development activities beginning immediately. The purchase price of the site is \$15,750,000, the same amount paid by the Baseline project. This relatively low purchase price reflects the condition of the speculative real estate land market in Chicago following the recession in 2008 and 2009. The main program of the Proposal will be primarily rental apartments, with required parking, loading, and resident access. The entitlement process is assumed to end with the same zoning regulations as the Baseline, thus maintaining a comparative overall building product. The site for the Proposal is a 2.2 acre (41,627 square feet) rectangular lot adjacent to an elevated highway to the east and bounded by ground level streets on all four sides of the lot. The site falls in a Planned Development zoning area which stipulates various regulations upon the completion of entitlements. A maximum of 750,000 square feet of FAR is allowed on the site in accordance with the stipulations of the planned development for the Baseline. A maximum of 500 dwelling units is allowed on the site, with a minimum parking ratio of 0.55 spaces per unit, the same requirements adhered to by the Baseline. A residential lobby and a small amount of retail is provided at the ground floor.

Since the Baseline project has already gone through the development process and is now a completed building at stabilization, all financing assumptions will be matched with the ex-post financing package taken from the Baseline project upon closing of the construction loan and refinancing to a permanent loan. A total development budget, including the purchase price of land, is approximately \$150,000,000. Construction is financed by a \$100,000,000 interest only construction loan lasting a total of 48 months. The remaining \$50,000,000 for construction is equity financed with a 10% contribution by the developer and a 90% contribution by an equity partner (LP). Investors and financial partners are seeking a total project internal rate of return of 20%. See Figure 06.4 for a list of project zoning and financing requirements.

<i>ZONING</i>	
<i>FAR</i>	<i>18 FAR, 750,000 allowable gsf</i>
<i>DWELLING UNITS</i>	<i>Maximum 500 dwelling units</i>
<i>HEIGHT RESTRICTIONS</i>	<i>None</i>
<i>PARKING REQUIREMENTS</i>	<i>Minimum 0.55 spaces per unit</i>
<i>FINANCING</i>	
<i>TOTAL DEVELOPMENT COSTS</i>	<i>\$150,000,000 (approx. \$215 / gsf)</i>
<i>LAND COSTS</i>	<i>\$15,750,000</i>
<i>HARD &amp; SOFT COSTS</i>	<i>\$134,250,000</i>
<i>EQUITY / DEBT</i>	<i>\$50,000,000 / \$100,000,000</i>
<i>BASELINE RETURNS</i>	<i>20% IRR, 1.90 Equity Multiple</i>

Figure 06.4 Table of Development Assumptions

## The Baseline

The Baseline project is currently constructed, fully leased, and operating at stabilization. The following description of a traditional process of building is inferred based on industry knowledge and familiarity with the internal professional activities within architecture firms and development firms. The description is aided with limited access to project documents, architectural drawings, memos, organization charts, and a familiarity with personal that worked on the project.

The Baseline project begins in early 2010 with site acquisition and control from a land purchase of \$15,750,000. The property has many positive characteristics that attract the development team to the opportunity. The overall size of the property fits all the normative characteristics of a typical development. Specific dimensions allow for an economic parking layout and an efficient residential tower footprint. An early capacity analysis might demonstrate that the site will easily host the maximum allowable built area, the maximum number of dwelling units, and more than the minimum number of parking spaces. The site is bounded on all sides by publicly accessible streets, with no directly abutting neighbors to contend with and no threat of future adjacent buildings to block views or light.

The development team feels confident about the investment potential of the site, given the strong market demand, the relatively cheap land basis, and the upside potential coming out of the recession. Before engaging an architect, the development team runs proformas based on anticipated development costs, realistic financing assumptions, and predicted operating income. The development team also puts together schedules and development time lines, which forecasts development activities, associated costs, and important milestones of the process through to stabilization. Though often not properly recognized, the developer is directly engaging in design decisions before hiring a design professional. Significant design objectives and physical constraints are established by the developer. The residential tower is required to have an overall rectangular shape, approximately sixty to seventy feet wide in order to accommodate a central core of elevators, stairs, and a double-loaded corridor hallway accessing units that face the exterior.

The maximum allowable number of units is determined to be the appropriate solution for the site based on market demand and the economics of the development proforma. The units are stipulated to be roughly thirty feet deep, the most advantageous dimension to fit a practical, light filled, and highly marketable interior layout. The parking count is determined partly by physical constraints but primarily by economic considerations. Due to the site's overall size, parking spaces can be accommodated entirely above ground. 415 parking spaces, a ratio of over 0.8 spaces per dwelling unit, exceed the minimum ratio of 0.55 and will have substantial physical requirements and an obvious impact on the urban environment. This ratio is established primarily due to income producing potential. The resident parking spaces are expected to produce roughly 10% of the total rental income of the units themselves. Parking spaces that are rented on an hourly and daily basis to the general public are predicted to provide about 20% of the total rental income. The parking component of the development is already an indispensable certainty and the resulting physical space required is established.

Offering booklets, deal memos, and related documents are produced in late 2010 to entice investors, lending institutions, and other interested parties to be involved in the development. Context maps, site maps, and images of views from the property are incorporated into the documents, however, images of the physical building concept are absent. In current practice, the building concept is unimportant at this stage. Investors, lenders, and other financial stakeholders are looking simply for market demand and reliable financial underwriting. In addition, architects have not been hired yet to produce convincing building images. However, based on industry experience, comparable projects in the area, site capacity analysis, and financial returns, a rough massing of the project has already emerged as an implicit reality, depicted in Figure 06.5. This massing is not an absolute determination of final form, but the underlying logic of the specific building form is sure to persist.

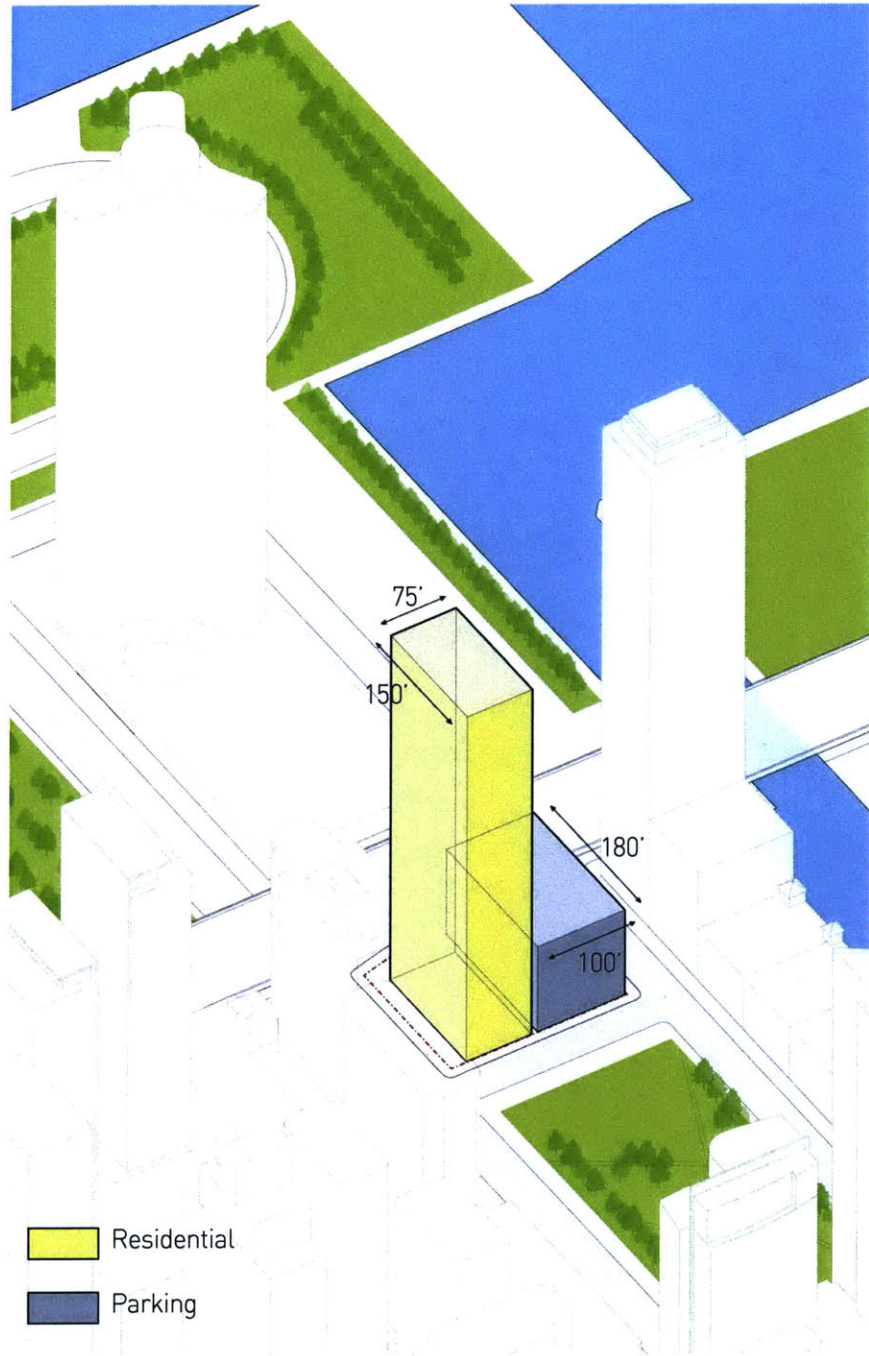


Figure 06.5 Developer's Implicit Building Massing

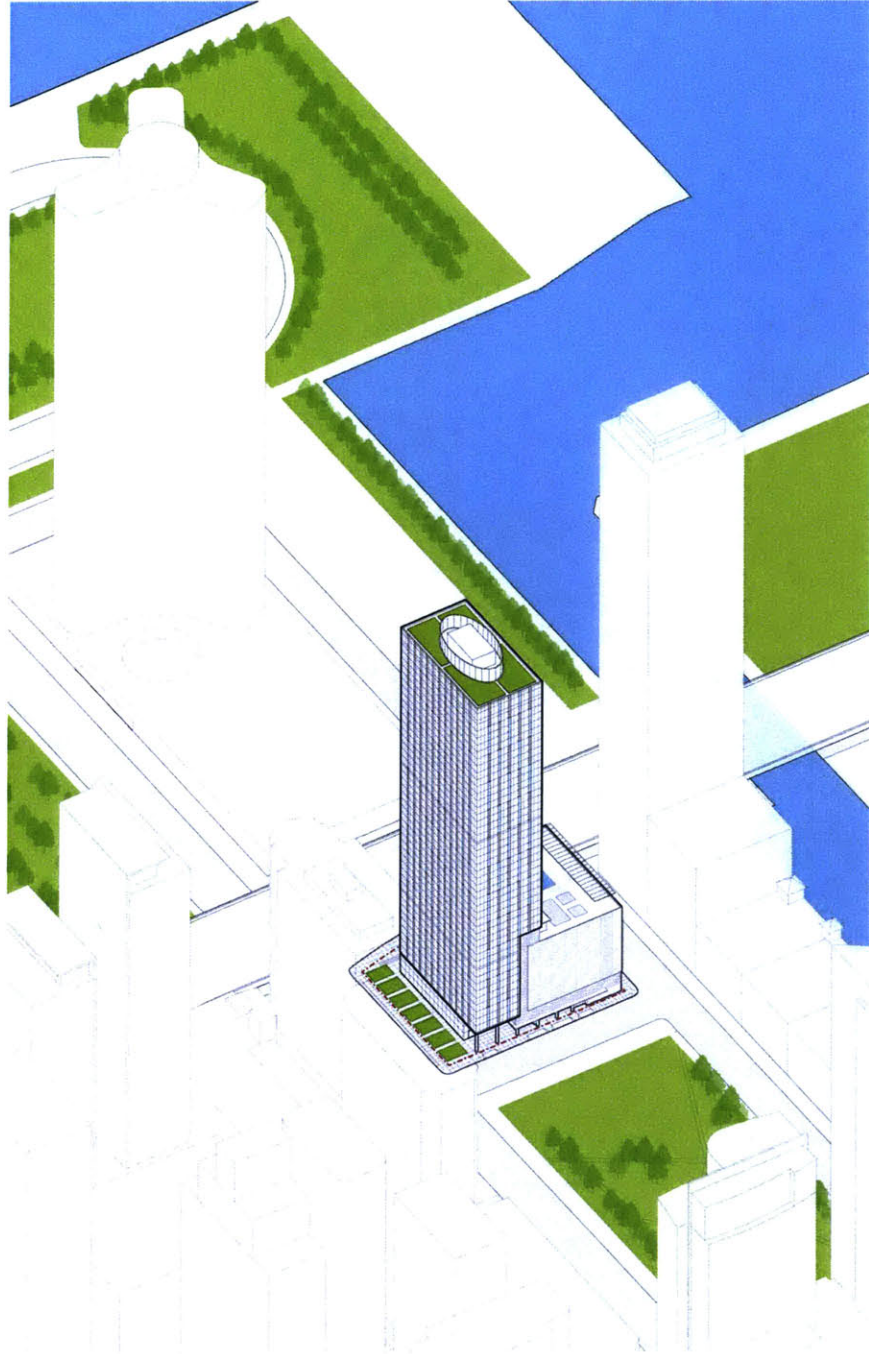
Direction is given for an efficient residential footprint, 75' x 150', and an ideally dimensioned parking structure, measuring 100' x 180'. Based on recommendations, comments, and concerns from the financial community in addition to an overall gut reaction to the real estate market, the developer is confident to move forward with an architect. The developer and architect enter into the tenuous relationship previously described as both crucial to the success of the project and also hanging delicately in the balance. The developer feels strongly about the overall configuration of the program; lobby and retail at ground floor, full above ground parking levels in the podium, and efficient residential tower footprint. The architect, in this case, responds directly to the task at hand by accepting the underlying logic of the development as matter of fact. The overall massing of the podium and tower, envisioned by the developer, are finally given visual reality by the architect.

The developer acts as the creative engine that shapes the built environment, even though there is denial of the creative capacities within the practice of development, and the architect becomes a hired consultant to simply execute the vision. In a reverse extreme example, the architect may disagree with the overall project vision but then must reluctantly choose to bend to the will of the developer or risk losing a critical business partnership and long term relationship. In either case, the true value of design is bypassed by economic, social, and functional matters from both developer and architect. After the completion of schematic building design, the developer rounds out the project team by adding numerous consultants. To coordinate and lead the growing project team, standard practice dictates that the developer have internal team members coordinating construction, architecture, legal, and financial aspects of the project, with added salary overhead and added confusion in the decision making process. These individuals are project managers responsible for the general contractor, the lead architect, the legal counsel, and the financial partners, respectively.

With the full support of financial partners and with internal company approvals, architectural design is advanced with the assistance of consultants. Some consultants, such as interior design and landscape design, are under contract with the architect. However, in the Baseline, the structural engineer is hired directly by the developer, establishing an interesting relationship between architect and structural engineer. Especially for high-rise buildings, the architect and structural engineer are required to be in constant communication to coordinate structural systems with interior space, mechanical systems, and overall design aesthetic. In this situation, the developer assumes control over these two parties and inherently becomes accountable for and immersed within the design process. The architect proceeds through design development and begins the construction documentation process in mid-2011, maintaining the original underlying vision from the developer.

At this point, final term sheets have been executed with the senior construction lender to move forward with construction as drawings are being prepared. As the project moves forward, more detailed drawings and documents provide better cost estimates for construction. Assumptions such as interest rates, construction costs per square foot, and building aesthetics are becoming tangible and legally obligated realities. Once these realities are fully understood, the process of value engineering is in full swing. The developer must stay on budget to keep the bottom line intact and therefore pressures architects and other design consultants to scale back costly items for the development to meet abstract and previously determined economic constraints. The architect again is in a tenuous position, in this case removed from budgetary decisions, and in most cases expected to concede design vision for financial returns or be at risk of losing a commission. Eventually the development team arrives at final construction documents and begins construction in mid-2011.

Throughout construction, the developer takes over the majority of coordination and management efforts. Construction takes roughly two years, a typical time-frame for this building typology and scale. Coordination of previous critical decisions was lost in the organizational chaos and subsequent issues must be resolved at the most costly stage of the process. The construction period



*Figure 06.6 Completed Baseline Development*



includes continued value-engineering activities, change orders, and complicated reconciliation of issues from multiple participants in the process with differing goals. After a complicated and arduous construction period, the development receives a certificate of occupancy in mid-2013, with a completed building ready for tenants, as depicted in Figure 06.6.

## **The Proposal**

The following is a description of an entirely theoretical project on the same piece of land as the Baseline. Assumptions are made based on the predicted application of the Convergent Model of development and represent the intended function of the practice model. The Proposal project begins concurrently with the Baseline project in early 2010 with site acquisition and control from a land purchase of \$15,750,000. The property has many positive characteristics that attract the development team to the opportunity. Complex vehicular and pedestrian circulation adjacent to the site poses challenges but also presents opportunities to create an iconic presence for residents and also an enjoyable and attractive public realm for pedestrian traffic and urban life. Lake Shore Drive, and its elevation above the ground plane provides opportunities to position above ground parking, back of house space, and other building program that does not need direct light or views. The site is bounded on all sides by publicly accessible streets, providing freedom of options to place residential units and incorporate amenity space for tenants.

The integrated design and development team begins by looking at the urban context of the site, placing emphasis on major adjacent points of interest. The value of the development is driven heavily by easy access to shopping, restaurants, entertainment, and conveniences combined with proximity to Chicago's central business district. Based on the prime location, market demand, and site constraints, the Convergent development team begins to shape the program of the site. Based on the income producing potential of comparable residential developments in Streeterville, a clear decision is made to maximize the number of allowable dwelling units on site. Though the high unit count creates additional site access complexity, the overall positive impact of creating density within cities aligns with the financial returns of the development. Parking spaces provided must meet the minimum parking ratio of 0.55, but the overall parking numbers are yet to be determined based on the physical massing of the project.

Following a basic analysis of potential building programs to consider on the site, an intensive design process begins. Leveraging the latest technology of conceptual massing tools, three dimensional modeling programs, and financial proforma software multiple massing options and visions for the site are studied, as depicted in Figure 06.7. Certain options are explored in more detail, illustrated in Figure 06.8. The expertise of informed design professionals at the beginning of the project allow for the exploration of many potential solutions to maximize the interests of all stakeholders while also reducing future architecture and design fees in the development proforma. The approximate development costs that are typically used in underwriting within the standard development process become much more sophisticated. Realistic building geometry informs more accurate cost assumptions and reduces overall contingency risk. Comparatively, a greater amount of internal employee time is spent up front on the alignment of financial, conceptual, architectural, and urban issues, but there are substantial benefits expected to occur in later stages of development.

Ultimately the Convergent development team arrives at a schematic building in late 2010. The schematic plans consider and interpret important issues across all the stakeholders in the development process. Significant input from public meetings and opinions from neighborhood interests have been taken into account. As the design process attempts to first create an excellent building and as a consequence maximize profit, the community is more open to development that prioritizes design quality. Compared to a proposal that first maximizes profit, the schematic building in the Convergent Model is not only the product of an ongoing rigorous design process but is a reflection of social and economic factors. The number of dwelling units is maximized,

- Residential
- Parking
- Public Amenity
- Private Amenity

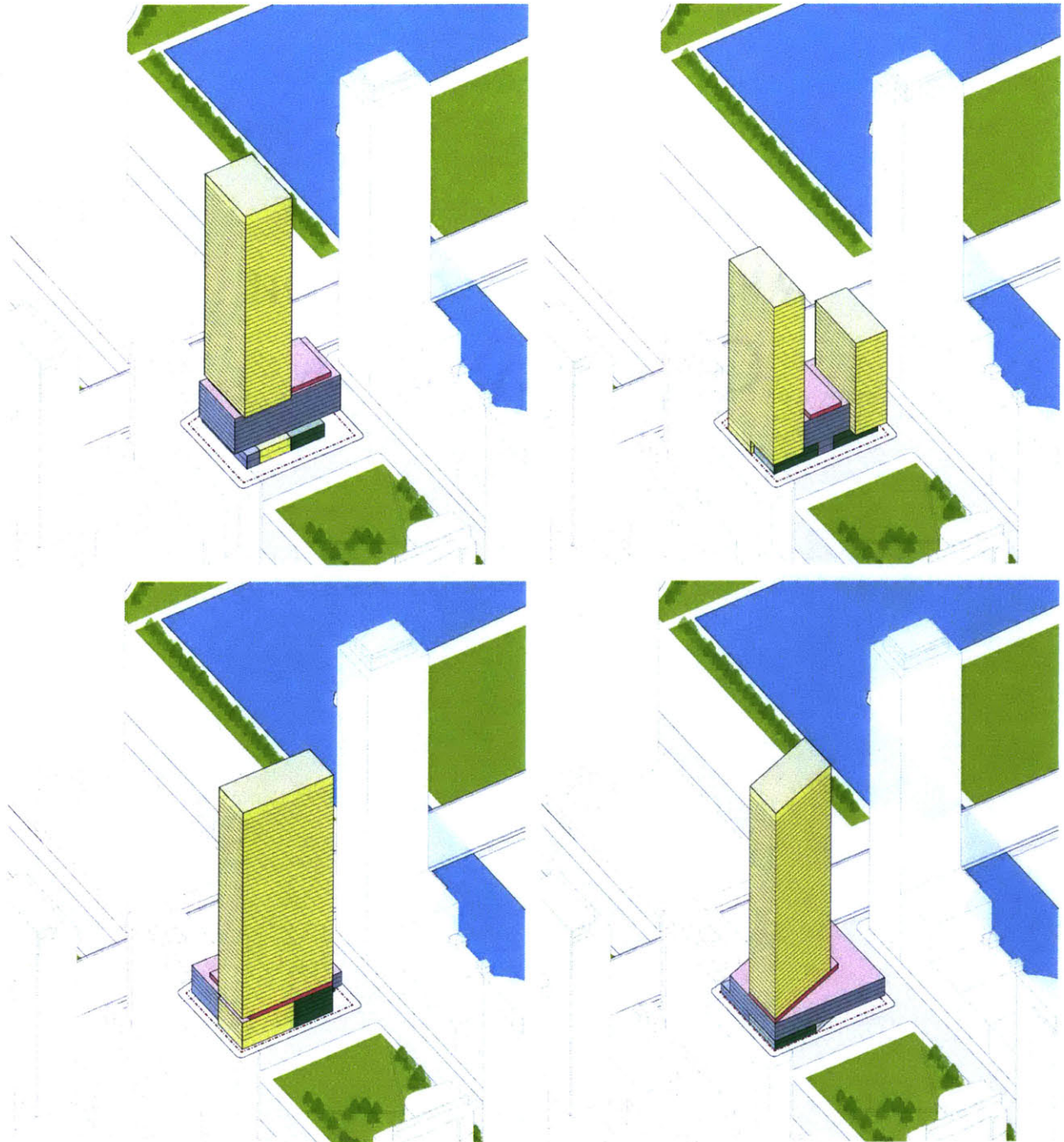


Figure 06.7 Design Process Massing Options



Figure 06.8 Detailed Proposal Scheme

a parking ratio of 0.8 is used to accommodate public parking, a comfortable and secure entry sequence is established for residents, and a generous public space is added to the dynamic urban environment. A detailed and accurate development budget reflects the schematic massing of the building and a development proforma is established based on the anticipated physical product that will be delivered. Design goals that match the development budget are established to create a signature building that provides distinctive amenity space and an excellent urban experience at ground level. Materials produced during the design process are utilized in offering memorandums which are sent to prospective investors and financial partners. In depth analysis conducted in the early stages of the development time line might provide an edge to secure equity partners that trust in the Convergent development team's process and skill set. By early 2011, financial partners have been secured and architectural design is progressing based on the early alignment of interests.

Avoiding difficult design presentations, approval processes, and logistics meetings as experienced in the standard practice of development, a small team of architects within the Convergent development team complete construction documents by the end of 2011. The consolidated efforts up to this point in the development process are leveraged to secure final senior construction financing. As the design of the building moves further along, the development team experiences a gradual reduction of risk, as more detailed information is utilized to replace generic assumptions with accurate cost take offs and the eventual built project pushes towards reality. Hard cost contingency is either reduced or becomes more accurately predictable, leading to a greater ability to take on innovative building strategies. The process of value-engineering is completely eliminated as the design goals have already been established early in the process to align with economic goals that consider the financial constraints of construction. Construction begins in mid-2011 and quickly progresses through an accelerated timeline, receiving a certificate of occupancy by early 2013.

## **Comparison**

By most accounts, the Baseline proposal today is highly successful. The apartment units are achieving higher rents than what the developers initially anticipated. Vacancy is extremely low and the popular roof deck offers excellent views of Chicago and the lake front. Primarily due to the site's advantageous location, any adequate development proposal delivered on site would perform well given the economic assumptions from the Baseline. In the Baseline, the main strength of the development team was in identifying opportunities and delivering an acceptable product with perfect market timing. However, the essence of the urban fabric is not made up of buildings as financial assets that capitalize on market conditions. There must be a greater ambition for development practice to be the fundamental process shaping the built environment. The Proposal attempts to consider the development process as a creative endeavor, continually informed by design thinking. Rather than produce inwardly focused, risk mitigating financial products, the goal is to create excellent buildings.

Though development metrics such as financing costs, construction costs, and project level returns are assumed to be the same, there are significant differences within each development model. Soft costs such as design and engineering expenses are internalized within the Convergent model and covered in the developer fee. This represents comparatively more upfront costs, but significant savings are realized with reduced consultant fees and the avoidance of paying for additional design services. Return metrics are assumed to be the same, with each project achieving a 20% internal rate of return on investment, based on the fact that each project delivers the same amount of apartment units, rooftop amenities, and income producing parking space. However, since the Proposal was developed with the goal of creating an excellent building, the expected returns might have a better upside scenario and a long-term real estate strategy might have greater expected performance based on greater trading values. Additionally, the contribution of an excellent building to the urban context might improve overall real estate values, increase rents on a neighborhood scale, and position the building in a better market overtime.

Figure 06.9 Baseline and Proposal Comparison Timeline

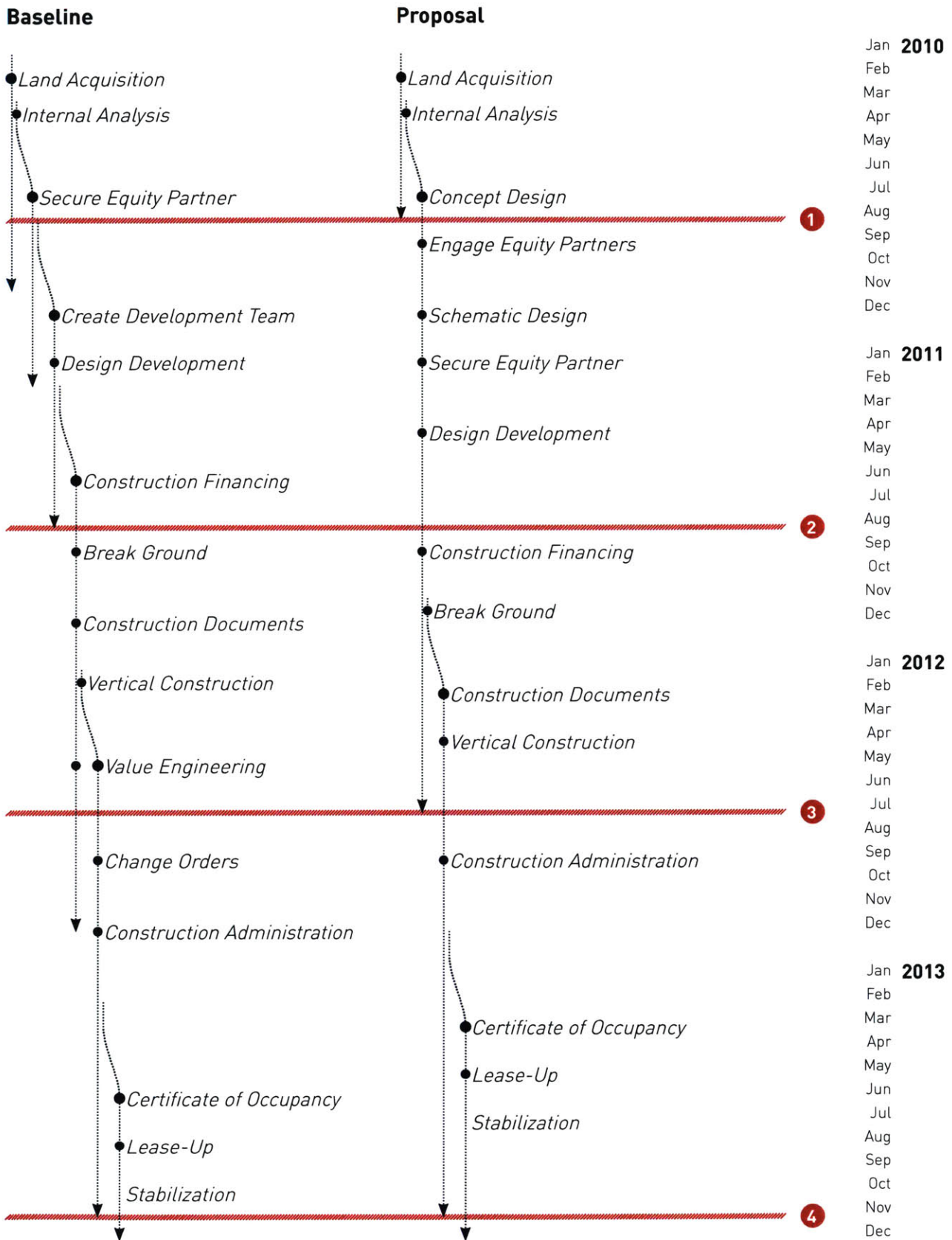
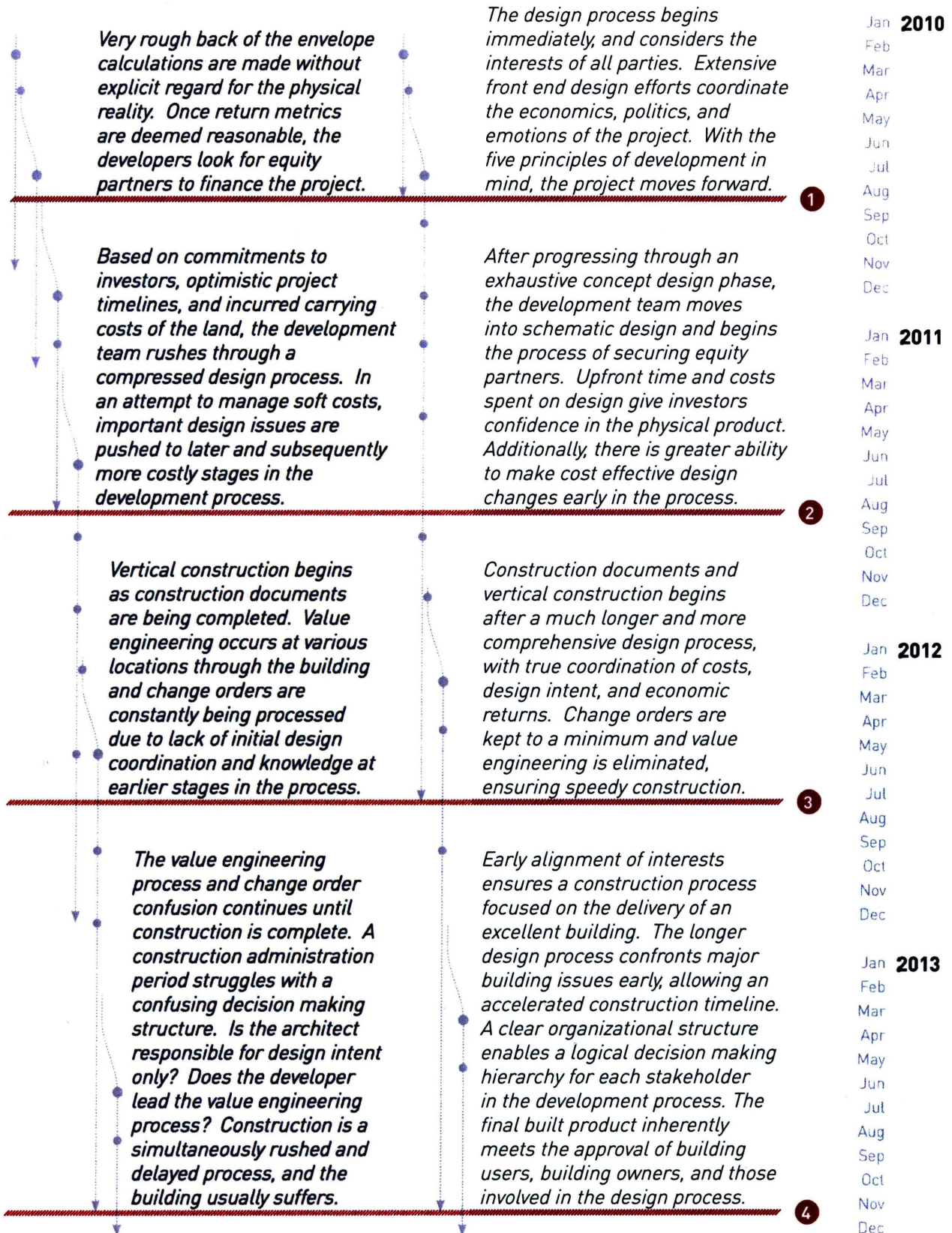


Figure 06.10 Baseline and Proposal Comparison Notes



Beyond simply improving the built environment, the Convergent development process utilized in the Proposal has greater capabilities to handle the increasing complexity of modern real estate development and architectural design. A simpler and more efficient organizational structure allows for a clear understanding of decision making responsibilities and aligns project goals from an early stage by considering the perspectives of all stakeholders. The varying interests from stakeholders are adopted as moving constraints within an intense and project long design process. Powerful technology is leveraged within the design team to increase efficiency as building design advances towards construction. Coordinated and aligned decision making within the design and development process leads to shorter construction periods with less last minute design changes, minimal unforeseen errors, and greater risk mitigation. The ongoing and logistically demanding value engineering process of current practice is eliminated by early comprehensive design decisions. Figure 06.9 depicts a side by side comparison of the Baseline development versus the Proposed development. Figure 06.10 expands the diagram to include notes on the various milestones of the development process and specifically considers how the Convergent process might be better equipped to meet the five principals of excellent development.



Figure 06.11 City of the Captive Globe

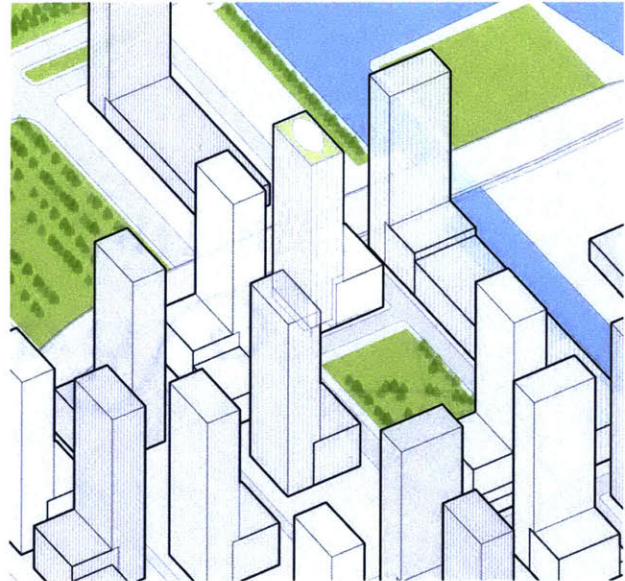


Figure 06.12 Developer's City

## Conclusion

Rem Koolhaas, writing in his influential book "Delirious New York", explains that modern buildings suffer from a "lobotomy" between interior and exterior. "The surgical severance of the connection between the frontal lobes and the rest of the brain to relieve some mental disorders by disconnecting processes from emotions. The architectural equivalent separates exterior and interior architecture".<sup>2</sup> The current process of building has led to architectural practice and design thinking being isolated to exterior aesthetic expression while the business of forming the everyday life that rages inside buildings across the globe is in the hands of the developer. In a sense, the lobotomy between interior and exterior is analogous to the discrepancies between developer and architect. Separation is required because the current building process, based on inherited roles, cannot adequately embrace modern buildings and urban environments.

<sup>2</sup> Rem Koolhaas, *Delirious New York* (New York: The Monacelli Press, 1997), 100-101.

The disconnected process creates an environment depicted in Koolhaas' "City of the Captive Globe", depicted in Figure 06.11<sup>3</sup>. Isolated islands of towers are stacked on top of podiums with different programmatic uses forced into the indistinguishable envelope of architectural aesthetics. Internalized, risk adverse real estate products turning their backs on the urban environment are celebrating and selling views out towards other buildings with the same marketing campaign. Architects operate within isolated parcels and are forced to fixate on extravagant exterior envelopes as means to express architectural imagination. Presently, design is fetishized with expensive materials, inefficient forms, and the practice of architecture as pure art. Architects and design thinking operate on the margins rather than seeking real influence on, and accountability to, the built environment.

Conversely, the developer naturally has powerful influence over the creation of buildings and cities. The developer's economic success inherently lies in the physical reality of real estate products and architectural design has tremendous implications on real estate success. As such, developers often implicitly control major design decisions such as product type, unit count, height, and even building form. To appease developers that are already taking on tremendous risk, developments based directly on previous models would be repeated across the city as comparable, tradable, and profitable assets. Superficial variations on the Baseline might be repeated through the urban realm, creating a Developer's City, illustrated in Figure 06.12.

The crude arrangement of responsibilities throughout the development process, inherited from previous eras and fledgling professions creates an isolated environment. For every accountable stakeholder in the process of building there are ten more on which to shed risk, burden, and blame. No wonder why the development process regularly boils down to equally crude negotiations over the cost and scale of ubiquitous green space as a public benefit from the developer. There a better way to contribute to the built environment. The roles of developers and architects throughout the development process have powerful and serious implications. It is time for the process of building to reflect the spirit of our time and drive civilization to a better future.

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<sup>3</sup> Koolhaas, *Delirious New York*, 294-295.





*Figure 06.13 John Hancock Center, Chicago, Illinois*

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