Understanding The Interaction Between Financing and Design:
Case Studies in Urban Mixed-Use Development

by
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Bachelor of Arts
Yale College
(1989)

Submitted to the Department of Architecture
in Partial Fulfillment of the Requirements of the Degree
of
Master of Science in Real Estate Development
at the
Massachusetts Institute of Technology
September 1995

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ABSTRACT 

Mixed-use developments represent some of the most innovative and complex real estate accomplishments of the last three decades. Though mixed-use developments are commonly recognized for their dynamic architectural solutions, mixed-use developments also exemplify very interesting challenges in terms of financial and legal structure. The mix of uses on one site fosters a unique responsiveness to market conditions, which is broadly categorized into four attributes: synergy, diversification, development risk and physical flexibility. Each of these four pose useful questions about the strategic enhancement of a property’s long term viability in the market place. 

In examining these issues through a series of three case studies, it becomes clear that the mixed-use product has evolved significantly since its appearance in the market three decades ago. Developers have worked to integrate architectural, financial and legal strategies in order to achieve new innovations that otherwise might not have been accepted by the lending community. These projects can serve as models to future mixed-use developments and to the real estate industry in general. 

Thesis Supervisor: Timothy J. Riddiough 
Title: Assistant Professor of Real Estate Finance
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ACKNOWLEDGMENTS

I am deeply grateful to those at JMB Realty Corporation for providing me with such a
thorough and challenging set of data. This thesis would not have been possible without
the use of these three landmark mixed-use developments.

I would like to thank Tim Riddiough for his guidance and sense of humor throughout the
thesis process, and acknowledge his undying efforts to integrate theory with practice.

Finally, I would like to thank my father, Coleman P. Burke, for his endless support, and
for impressing upon me, many years ago, the honorable challenge of taking a piece of
land and making it a better place.
CHAPTER ONE

PURPOSE
The development of successful real estate properties is based on two fundamental, interrelated capabilities: first, the developer must craft a real estate "product" which is demanded by the marketplace. Second, the developer must procure the financing that will bring that product into fruition. Production and financing cannot work independently; the key is to address both aspects simultaneously to create a marriage between innovation and viability.

Historically, real estate has suffered dramatic downturns in value because either one factor or the other has been missing. In the mid 1980's, for instance, developers enjoyed plentiful access to institutional funds yet continued to push real estate products that had little or no demand in the market. In the early 1990's, developers saw room for opportunity with undervalued properties, yet suffered from a dearth of capital.

While in theory the industry should focus equally on both product and finance, published studies rarely attend to the delicate balance between these two elements. The extent of industry thinking on this issue is that lending practices tend to suppress product innovation. As stated in such an article in Urban Land, "Financial institutions have never been particularly adventuresome about lending on development projects outside the mainstream. The hesitation of lenders to risk money on a still unproven concept when plenty of more conventional development projects are vying for the same limited funds is a decided obstacle to the implementation of developers' plans."¹

Indeed, real estate is generally categorized by both practitioners and theorists into distinct and homogeneous product types: residential, office, retail, industrial, recreational and hotel. This makes real estate more easy to analyze and evaluate: data can be gathered on comparable projects; economic trends can be predicted; and lenders can pool alike assets to create securities. This homogeneity is beneficial to a certain extent; it allows real estate to achieve liquidity through securitization, investor credibility through time series analysis, and cost efficiency through loan standardization.

Ironically, the developer operates under a different philosophy, one which has been labeled the "fallacy of uniqueness." Many developers strive to create a building which is impossible to substitute, which has the unique ability to withstand economic cycles, and which is entirely customized to its local market. Given this dichotomy between developer and financier, it is valuable to examine those projects which do not fall into one of the industry-wide categories, particularly to examine projects which employ an unusual level of innovation and creativity.

This thesis focuses on one of the most complex and unique products in real estate: the urban mixed-use development (MXD). The extraordinary complexity of mixed-use developments serves as an excellent vehicle for understanding how design and finance interact to create a product that can be both innovative and economically durable. In many ways, mixed-use development has served as a testing ground for innovation in the industry. Physically speaking, many MXDs are the boldest, most daring U.S. projects of the last three decades; observing and understanding the strategic decisions that supported those projects is crucial to understanding the past and future dynamics of real estate.

This thesis presents combined analysis of the design and finance of mixed-use development, an approach which has not been taken before. In an attempt to compare theory with empirical evidence, three case studies are used to demonstrate the evolution of mixed-use as a product and as an investment.

The structure of the thesis is as follows: Chapter Two outlines the essential characteristics that, theoretically, differentiate mixed-use from single-use. Chapter Three examines three urban mixed-use developments--Water Tower Place in Chicago, IL, Copley Place in Boston, MA, and 900 North Michigan in Chicago, IL--which were completed in 1976, 1984, and 1988 respectively. The cases are used to demonstrate how the financing and design of these projects has evolved with the industry over time and to what extent theory meets with empirical evidence. Chapter Four addresses the changes that have occurred in the marketplace since the real estate

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2 William C. Wheaton, Chairman, MIT Center for Real Estate, Fall 1994.
3 The definition of a mixed-use development, as provided by the Urban Land Institute in 1976, is a project containing three or more self-sustaining, revenue-producing uses, which is integrated both physically and functionally, and which is developed in accordance with a coherent plan. Dean Schwanke, Mixed-Use Development Handbook (Washington: Urban Land Institute, 1987)
crash of the late 1980s, and, using informal project examples, discusses how mixed-use
development might be developed and financed in the future.
CHAPTER TWO

THE INNOVATION OF THE MIXED-USE PRODUCT

To understand modern mixed-use development in its proper context, it is beneficial to return to medieval towns and cities, where, according to architect and author Eberhard Zeidler, describing buildings as mixed-use would have seemed irrelevant. For centuries, buildings contained all aspects of daily life, both work and residence, and even in some cases, religious or civic functions.

This pattern of urban living did not change significantly until the Industrial Revolution, when noise, pollution and overcrowding first encroached upon European and American cities. At that time, urban planners and authors known as the Utopiasts, led chiefly by Ebenezer Howard, began to construct ideas of a more healthy, moral and leisurely life away from the city. According to Jane Jacobs, famed author of The Death and Life of Great American Cities, "Howard set spinning powerful and city-destroying ideas: he conceived that the way to deal with the city's functions was to sort and sift out of the whole certain simple uses, and to arrange each of these in relative self-containment."

Howard's ideas took hold, and patterns of development changed dramatically in the next century. In the U.S., two major influences--the rise of the automobile and the establishment of local zoning regulations--reinforced and made permanent the trend away from mixed-use environments. Not until the 1960s, in response to the auto-oriented, dispersed nature of American communities, and to the banal single-use developments of the 1950s, did mixed-use development return, as a way to revitalize commercial business districts.

Though the physical aspects of mixed-use development date back to medieval city life, the legal and financial precursor to the MXD was in many ways the retail mall. In 1931, Highland Park opened in Dallas, and was the first planned shopping center to be located on a single parcel of land under the ownership of a single entity. In 1950, the Northgate Center opened in Seattle, the first regional mall in the nation, with a

---

department store as anchor and an outdoor pedestrian mall. In the ensuing years, retail developers initiated many of the operational standards which are common today: percentage leases, merchants' associations, tenant mix policies, joint promotions, and common area maintenance.6

The first mixed-use developments utilized the same concept as the retail mall, yet included other uses besides retail. The key was to offer the users of each component a distinct advantage (convenience) while increasing the vitality (synergy between users) and visibility (indirect public relations) of the project. Mixed-use developers also looked to retail projects for clues on operations and maintenance. To resolve complications that arose between the various components, mixed-use developers utilized the tool that had been created by mall developers: the reciprocal easement agreement (REA), which laid out the various rights of each component in relation to physical access and building systems.

In the 1960s, a number of large mixed-use developments were initiated by city governments or planning agencies: Penn Center in Philadelphia, Constitution Plaza in Hartford, and Charles Center in Baltimore. In 1970, Gerald Hines, founder of Hines Interests Limited Partnership, opened the Houston Galleria, which became a nationally recognized example of the new mixed-use product. Unlike many of its predecessors, the Galleria was not initiated by a public entity, but was developed as a private sector venture. As reported by Bernard Frieden and Lynne Sagalyn in Downtown Inc., "In building the Galleria, Hines said he was trying to define a new prototype, 'a whole new urban form that the American public doesn't know exists'...Hines broke almost all the rules of mall building: retail shops were stacked on three levels, and high-rise hotel lobbies and office buildings fed directly into the mall."7

During the 1970s, developers and city governments built approximately 150 mixed-use and multi-use developments around the country, and during the 1980s, the number of MXDs nearly tripled to 400.8 In 1985, Richard Witherspoon, an economic and financial consultant and a lead author of Mixed-Use Development: New Ways of Land Use,

called mixed-use development "the single most important new movement in real estate development in 25 years", and emphasized that the birth of mixed-use was comparable to the advent of the shopping center in the years following World War II.9

ADVANTAGES AND DISADVANTAGES
With mixed-use developments in existence for over 30 years, it is useful to look critically at the advantages and disadvantages of mixed-use development. Following is an outline of the major differentiating attributes of MXDs, focusing specifically on the reasons why in theory mixed-use development might perform differently than single-use. These theories will then be used as a backdrop to the case studies in Chapter Three.

Synergy

Synergy is the hallmark of the mixed-use development. By definition, a mixed-use development creates a dynamic atmosphere that cannot be produced by any one component individually. By linking various uses in one continuous setting, the MXD intentionally imitates the vivacity of city streets, essentially creating a city within a building. There is little dispute within the industry that a successful mixed-use development creates that vibrant, yet safe and comfortable, atmosphere. The key question is, however, whether that atmosphere--that synergy--translates into increased value for the project.

From an urban economic standpoint, Ehud Mouchly and Richard Peiser hypothesize that synergy does increase the intrinsic value of the development. "In the ideal model of the MPC/MXD [master-planned communities and mixed-use developments], users, perceiving the 'good value' it offers, will pay higher occupancy costs than those that prevail elsewhere for similar uses, causing land use values inside the MPC/MXD to rise faster and remain higher than values for identical land uses outside the project."10 Mouchly and Peiser note that generally, the value of a mixed-use development rises more slowly during predevelopment due to the level of complexity, yet rises faster once

project entitlements have been obtained, and remains relatively higher throughout the life of the project.

Conceptually, this theory seems to make sense. Office tenants might theoretically pay higher rents because of the additional amenities available to them within walking distance: retail shops, catering and audio/visual equipment from the hotel, or the use of an on-site sports club. Hotels might command higher rates because their guests enjoy on-site "entertainment" with the mall and site amenities. Retail tenants might generate higher percentage rents, because sales are theoretically boosted by residential, office and hotel users. Parking revenues might exceed those of single-use garages because parking spaces are utilized 24 hours a day.

However, industry opinions and observations indicate that synergy is not perceived as having a direct effect on the economic value of the property. Though there are exceptions, amenities and atmosphere do not necessarily produce above-market rents. Most of the lenders interviewed for this thesis emphasized that in looking at a mixed-use development, each component is viewed as a freestanding asset. Some lenders mentioned that for new MXDs, potential synergy does play a minor factor in rent projections, particularly for parking or retail. However, for the most part, synergy is not considered a measurable economic factor.

On the other hand, synergy is viewed as having a positive effect on factors of long term viability, such as occupancy levels, leasing momentum, and tenant retention. MXDs are generally high-profile projects and thus might attract a wider range of potential tenants, even when competing against newer buildings. Tenants who do choose to rent space in an MXD might value the image and the additional amenities, and therefore might be inclined to renew leases. One developer noted a very dynamic relationship between the various uses, describing strong positive feedback from tenants in MXDs. This developer explained that office tenants, for example, can attract a higher caliber of employee because of the added attraction of retail and other project amenities. Furthermore, the hotels boost their occupancy levels on weekends by advertising special hotel packages in coordination with sports events and retail promotions. Other developers expressed the belief that mixed-use developments appreciate very well over the long term, and tend to command lower cap rates.
While synergy can benefit a project in many ways, it can also backfire. If one component of a project fails to attract users, it can hypothetically deter consumers from frequenting the other uses. This "domino effect" theory is the chief reason that developers are intent on determining that each use within the MXD is economically independent. Furthermore, a project that has the proper legal structure can alleviate the effects of this phenomenon.

There are other complications with buildings that combine various uses in a high-density setting. If managed poorly, tenants can suffer from negative externalities created by the other components: noise, odor, or security problems. One might expect that MXDs have unique challenges in operations, allocation of costs, and/or shared building services. These unappealing features are not only of concern to tenants, but to financing sources, and one might theorize that financing sources are more expensive for a mixed-use development because of the added risk and/or legal complexity assumed by both developer and lender.

Each of the developers and lenders interviewed cited examples of potential MXD problems. One developer pointed to the fact that with more than one management team on site, operational decisions can create conflict between the various uses. Changes that benefit one use may not necessarily benefit another. Various lenders emphasized the thorny issues that arise between project components: shared use of the loading dock, access to cooling towers, and building expense allocation. Some suggested that the added level of administrative and legal risk is priced into the cost of capital.

**Diversification**

Given that different land uses have different markets and different rental dynamics, a mixed-use project enjoys financial diversification by combining more than one use. Theoretically, a mixed-use project should experience lower volatility of net operating income than a single-use project. In this sense, the mixed-use development is structured similarly to a diversified portfolio of securities; it pools various income-generating sources, reduces the volatility of cash flows, and thus diversifies away part of the investment risk.

Take for example a city in which office rents are falling while retail rents are rising. In that city, retail projects (single-use) will experience increased cash flow as leases roll over; office projects will suffer decreasing rents; and mixed-use projects will stay the most stable of the three.
Of course, diversification only exists if the rents of the various component move differently. The financial performance of various product types has been studied in a number of academic publications, chiefly a study by Hartzell, Hekman and Miles (1986).\textsuperscript{11} Using data from 1973 to 1983 provided by a large institutional manager of pension fund real estate investments, the study calculated the correlation between various product types. The study found that these correlation coefficients were indeed quite low (below 0.5); in other words, product types were found to move somewhat independently over time.\textsuperscript{12}

In addition, data from the Russell-NCREIF Index of Property Values demonstrates that property types do indeed perform quite independently over time. The following graph

\begin{table}
\centering
\begin{tabular}{|c|ccccc|}
\hline
      & Industrial & Office & Retail & Residential & Hotel \\
\hline
Industrial & 1.0 & & & & \\
Office      & 0.3241 & 1.0 & & & \\
            & (.1632) &  & & & \\
Retail      & 0.4667 & 0.1790 & 1.0 & & \\
            & (.0381) & (.4502) & & & \\
Residential & 0.0223 & 0.0613 & 0.3404 & 1.0 & \\
            & (.9256) & (.7974) & (.1420) & & \\
Hotel       & 0.0878 & 0.3390 & 0.4575 & 0.0397 & 1.0 \\
            & (.7130) & (.1437) & (.0426) & (.8681) & \\
Inflation   & 0.4578 & 0.7152 & 0.4771 & 0.4133 & 0.5329 \\
            & (.0424) & (.0004) & (.0334) & (.0701) & (.0155) \\
\hline
\end{tabular}
\caption{Hartzell, Hekman, Miles: "Diversification Categories in Investment Real Estate"}
\end{table}

The number in parenthesis is the probability that the true correlation coefficient is greater than (R) under the null hypothesis of R=0.


\textsuperscript{12} The data included in this study was collected from a national sampling of projects. Although the study did not calculate correlation coefficients within local markets, one would expect that the correlation between product types is comparably low.
illustrates the difference between office and retail performance over a 15 year time span.\textsuperscript{13}

If mixed-use developments do offer lower volatility of cash flows, then the probability of default occurring is theoretically lower. In that case, financing should be less expensive. In support of this theory, Paul Childs, Timothy Riddiough, and Alexander Triantis found in a contingent-claims pricing model that if a single-use project has a default risk premium of 175 basis points, a mixed-use project has a default risk premium which is 10 to 100 basis points lower, depending on the mix of uses and their respective correlation coefficients.\textsuperscript{14}


The following exhibit, a cash flow statement for a fictitious mixed-use development, demonstrates how an MXD can experience lower volatility of revenue. Although the component rents are very volatile from year to year, total revenues are quite stable. Due to the diversification effect, the standard deviation of total revenue is far lower than any single component. Though the volatility of rents has been exaggerated to illustrate the point, the concept can be applied to any mixed-use development.

<table>
<thead>
<tr>
<th>Component Profile</th>
<th>Size</th>
<th>Term of Lease</th>
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<tbody>
<tr>
<td>Office</td>
<td>450,000 sf</td>
<td>annual</td>
</tr>
<tr>
<td>Retail</td>
<td>300,000 sf</td>
<td>annual</td>
</tr>
<tr>
<td>Hotel</td>
<td>500 rooms</td>
<td>nightly</td>
</tr>
<tr>
<td>Parking</td>
<td>750 spaces</td>
<td>daily</td>
</tr>
</tbody>
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### Theoretical Cash Flow for a Mixed-Use Development

#### The Effect of Varying Component Rents on Total Revenue

<table>
<thead>
<tr>
<th>Component</th>
<th>Size</th>
<th>Term of Lease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>450,000 sf</td>
<td>annual</td>
</tr>
<tr>
<td>Retail</td>
<td>300,000 sf</td>
<td>annual</td>
</tr>
<tr>
<td>Hotel</td>
<td>500 rooms</td>
<td>nightly</td>
</tr>
<tr>
<td>Parking</td>
<td>750 spaces</td>
<td>daily</td>
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</tbody>
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<table>
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<tr>
<th>Average Rent by Component</th>
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<tbody>
<tr>
<td>Office (per sf)</td>
</tr>
<tr>
<td>Retail (per sf)</td>
</tr>
<tr>
<td>Hotel (per room)</td>
</tr>
<tr>
<td>Parking (per space)</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Average Annual Revenue by Component (in thousands)</th>
</tr>
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<tbody>
<tr>
<td>Office</td>
</tr>
<tr>
<td>Retail</td>
</tr>
<tr>
<td>Hotel</td>
</tr>
<tr>
<td>Parking</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Standard Deviation by Component</th>
</tr>
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<tbody>
<tr>
<td>Office</td>
</tr>
<tr>
<td>Retail</td>
</tr>
<tr>
<td>Hotel</td>
</tr>
<tr>
<td>Parking</td>
</tr>
<tr>
<td><strong>Total Revenue</strong></td>
</tr>
</tbody>
</table>

Generally, it is observed that lease structure in a mixed-use project is also diversified. For example, office leases vary considerably from hotel rates. Office buildings are comprised of relatively long-life leases (5 to 15 year terms), and therefore react slowly to fluctuations in market rent, while hotel rates are completely fluid and can change day to day. Thus, a mixed-use project falls somewhere in the middle. In an environment where...
office rates are rising and hotel rates are sinking, the single-use office building slowly experiences increased cash flow as leases roll over, the hotel experiences an immediate down-tick in revenue, yet the mixed-use development experiences both a long-term increase in office rents and a short-term decrease in hotel revenue.

Thus far, diversification has been discussed in regards to reducing risk. It can also be theorized, from an economic standpoint, that diversification enhances return. For example, a one million square foot, single-use office building might experience declining marginal rents, as the market absorbs the most appealing spaces first, and the balance of the project is leased more slowly at lower rates. By contrast, a one million square foot mixed-use development only provides one quarter of the office space, and therefore can theoretically demand higher average rent per square foot. Therefore, for sites where a single use cannot be absorbed at high density, mixed-use development is the optimal solution. As demonstrated in Chapter Three, this is very commonly the underlying economic force behind mixed-use projects.

The diversified nature of MXDs also might afford more flexibility in the design process, and might allow projects to move beyond typical design conventions. In a single-use project, lenders might refuse to fund a new design innovation, (for example a single anchor in a retail mall), for fear that the project will not be economically sustainable. In a mixed-use, however, the other components within the MXD might compensate for the riskiness of the innovation (thus one anchor would be funded). In this sense, one might deduce that because of diversification, the mixed-use product creates a more flexible framework for development. Indeed, a number of developers and lenders cited examples where the diversification effect did allow certain risky uses to be financed.

**Development Risks**

It is commonly believed that construction risk on a mixed-use project is greater than on a single-use development. The increased complexity of mixed-use—sheer size and density of the project, technical difficulty of sites with unusual infrastructure challenges, and varying floorplates—increases the chance of budget and cost overruns. Increased probability of complications might make a developer's profit margin more risky, or, worse yet, jeopardize permanent lending commitments or lease arrangements.

One might also anticipate problems in amassing the resources needed in predevelopment stages. Large parcels of land usually must be purchased and held for the duration of
approvals. The developer must rely on a design and construction team that has diverse enough experience to handle various uses, or the developer must coordinate between more than one designer or contractor. The approvals process can take a much greater time than a single-use project, and often a developer cannot receive its lending commitment until all permits are secured.

Finally, the developer must finesse the lending process, and particularly in the case of more than one lender, must untangle the knot of conflicting interests that arise on a mixed-use site. A longer development period makes it more difficult for the developer to secure a forward takeout commitment. The operations documents—the reciprocal easement agreement, the condo association agreement, and hotel operations agreement—must guide project operations, and must explicitly resolve in advance any disagreements that might arise between the components. For this reason, many developers prefer to seek financing from a single lending source.

Absorption is the final development risk before a project moves into operations. With a mixed-use development, the likelihood that three or four uses will be absorbed simultaneously by the market is much more difficult to predict. Though some assume that timing is an added risk for MXDs, others claim that MXDs actually lease faster than single-use projects, because the momentum created by one component (particularly retail) fosters quicker absorption of the others. In any case, the developer needs an experienced team of leasing professionals who fully understand the local market for each different component of the MXD.

Physical Flexibility and the Conversion Option
The fact that mixed-use development is made up of a "kit of parts" means that owners theoretically have more flexibility to convert one use to another. Given shifts in the market, a project owner could, for example, convert hotel floors to office floors for an interested tenant. Also, given the fact that many mixed-use developments (particularly suburban) enjoy more open space than single-use, the potential for expansion is arguably more feasible than in a single-use project.

Though these changes involve significant monetary and time costs, they give mixed-use owners more flexibility to adapt to a changing market. As argued by Childs, Riddiough and Triantis, the redevelopment option enhances the project's economic value, because it means that development is no longer an irreversible action. Their contingent-claims
pricing model demonstrates that if redevelopment costs are kept relatively low, the
"flexibility with respect to mixing uses and redevelopment will contribute significantly to
the overall value of the built property or undeveloped land."15 Furthermore, since
many mixed-use developments are built in phases, there is more flexibility for the owner
to make slight modifications during the development process which more truly reflect
market trends.

Other authors agree and point out the crucial importance of the planning phase.
Mouchly and Peiser explain that given the longevity of mixed-use projects, "the
MPC/MXD will not only go through several economic cycles, but also through several
structural changes in market needs, tastes, and preferences. Superior planning and
design, along with permitting for maximum flexibility, are needed to assure the survival
and competitive edge of the project."16 Furthermore, the developer must ensure that
legal documents, such as the reciprocal easement agreement or the legal subdivision, do
not prevent such conversion or expansion.

The four issues described above--synergy, diversification, development risk, and
physical flexibility--create the theoretical framework behind the advantages of
disadvantages of mixed-use development. It is useful to compare this framework with
real data, gathered from projects which are competitive in today's marketplace. Once
this is done, it is possible to draw conclusions about the performance of mixed-use
development as a unique real estate product.

15 Paul D. Childs, Timothy J. Riddiough, and Alexander J. Triantis, "Mixed-Uses and the
16 Mouchly and Peiser, p. 18.
CHAPTER THREE: CASE STUDIES

Numerical data on mixed-use projects are not readily available as they are with single-use products. Statisticians typically deal with mixed-use projects in one of two ways: either a mixed-use project is categorized under "Other property type", in which case it is lumped in with a wide variety of products, or a mixed-use project is split into its separate components (office, retail, parking, etc.).

Given the lack of available information, the case study method is used in this thesis to gain a better understanding of the interaction between production and financing decisions in mixed-use development. Although the case study method does not necessarily allow conclusions of statistical significance, there are valuable lessons which can be drawn from the data, particularly in relation to the theoretical framework in Chapter Two.

Furthermore, the case study method is suitable for looking at mixed-use developments over time, which can be valuable to understanding the evolution of both production and financing. Many econometricians and real estate analysts recognize that there are two ways to understand the behavior of real estate assets. The first is to look at a large sample of properties at one moment in time. However, this approach is potentially biased by the time in which the study occurs. The longitudinal approach is to study a small number of loans and to trace the evolution of each deal, observing how different structures and cash flow priorities change through the course of different economic cycles and through the maturity of the project.

This thesis takes the longitudinal approach. Three case studies have been chosen: Water Tower Place, Copley Place and 900 North Michigan. Each project is observed from the time of inception to the present. Both Water Tower Place and Copley Place were developed by Urban Investment and Development Company, (UIDC), which was founded in 1968 as a subsidiary of Aetna Insurance. In 1984, JMB Realty Corporation acquired UIDC, and assumed its ownership share in Water Tower Place and Copley Place. JMB also purchased the design and approval rights for 900 North Michigan, and subsequently developed 900 North from 1985 to 1988.
Although information was gathered from over ten different mixed-use developments, these three projects serve as the focal point of this thesis. These three were chosen as case studies for the following reasons: 1) they have similar design profiles: urban, downtown sites in large U.S. cities  2) each was developed in a distinctly unique time period: mid 1970s, early 1980s and late 1980s, respectively, which sheds light on the use of evolving financial strategies and 3) though each project has different architects, contractors, and lenders, the developer/owner is consistent over time, which allows consistency in data collection. 

17 It should be noted that the consistency provided by using data from one developer outweighs the potential disadvantage of single-source bias.
WATER TOWER PLACE, CHICAGO, IL.
Opened in 1976

Water Tower Place was originally conceived in the early 1970s when Marshall Fields approached UIDC in hopes of building a second department store in downtown Chicago. Phil Klutznick, president of UIDC at the time, envisioned a project that would not only fulfill Marshall Fields' requirements but would create an upscale, urban destination. In light of exorbitant land costs along Michigan Avenue, he saw the opportunity to do a project of very high density, namely a mixed-use project. UIDC formed a 50/50 partnership with Marshall Fields and began the land assembly and project design.\(^{18}\)

At the time that UIDC was formulating its initial assumptions about the development, there were still few precedents in the country for large scale mixed-use. The design--a 3.1 million square foot complex including multi-level retail, a high-end hotel, 40 floors of condominiums, unconventional office space, and underground parking, all on one city block--was highly unusual to private lending sources. Interestingly, by the time Water Tower was complete in 1976, approximately 100 mixed-use developments had been started throughout the U.S.\(^{19}\) However, Water Tower Place was still colossal in comparison; the average mixed-use development in the 1970s was 1.7 million in size in comparison to Water Tower's 3.1 million square feet.\(^{20}\)

Given Marshall Fields' initial involvement, the retail was the core component of the project; all other uses were chosen to maximize synergy with the retail. According to Norman Elkin, former vice president at UIDC, the intent was to gather various uses in one dynamic place and maximize the possibility that people would come to Water Tower for one particular reason and "make a day of it." In addition, each use was specifically crafted to create a consistency of style throughout the building: Water Tower was to be regarded as a safe, highly upscale destination in the city. Motivated by these criteria, UIDC went about attracting the other project uses.

\(^{18}\) Unless otherwise noted, information on Water Tower Place was gathered from employees of JMB and UIDC (see interview list).


Ilu.

... iMechanical

Condominium Residences

Ritz-Carlton Hotel

Office-Commercial Complex

Shopping Center

Parking and Delivery Areas

WATER TOWER PLACE
UIDC obtained a commitment from the Ritz Carlton to open what was at the time only their second location in the U.S., which would give Water Tower a unique flair. After considerable market research, it was determined that the project would include roughly 200,000 square feet of office space. One floor of the office component was targeted towards "destination office"—hair salons, dentists, optometrists, and custom furriers—who desired the Michigan Avenue address but not a streetfront location. The other office floor was leased by UIDC as its corporate headquarters. The high-end condos were targeted towards wealthy residents of Chicago who sought a downtown residential location with views of Lake Michigan. Retail shops were selected to supplement the upscale merchandise offerings of the anchor tenants, Marshall Fields and Lord & Taylor. In designing the structure, UIDC attempted to weave a number of urban uses into one integrated space.

<table>
<thead>
<tr>
<th>Project Statistics</th>
<th>Water Tower Place</th>
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<tbody>
<tr>
<td>Project Location</td>
<td>Chicago, IL</td>
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<tr>
<td>Year Completed</td>
<td>1976</td>
</tr>
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<td>Project Cost</td>
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<tr>
<td>Project Size</td>
<td>3.1 million sf</td>
</tr>
<tr>
<td># Stories</td>
<td>74</td>
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<tr>
<td>Components:</td>
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<tr>
<td>Office</td>
<td>200,000 sf</td>
</tr>
<tr>
<td>Retail</td>
<td>725,000 sf</td>
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<tr>
<td>Parking</td>
<td>640 spaces</td>
</tr>
<tr>
<td>Hotel</td>
<td>432 rooms</td>
</tr>
<tr>
<td>Residential</td>
<td>260 units</td>
</tr>
<tr>
<td>Amenities</td>
<td>health club, theater</td>
</tr>
</tbody>
</table>

Just as UIDC thought of the project as a single architectural entity, the developer also treated Water Tower as one seamless financial deal. The developer negotiated a permanent loan commitment from Aetna Insurance for the entire development in 1971-72.21 The $100 million loan was, at the time, one of Aetna's largest real estate

21 Note that the condos were not financed by the permanent loan but were financed by the construction loan and equity. As each unit was sold, the proceeds paid down the construction loan.
commitments. Subsequently, construction financing for the entire project was issued by First Chicago. The equity, which amounted to $40 million, was split evenly by UIDC and Marshall Fields, as joint venture partners. The loan to value ratio, 71%, was not uncommon at the time.

Though the real estate product was new, its financial structure was in no way unusual. In the early 1970s, as in prior decades, the relationship between borrower and lender was relatively simple. Deals were based primarily on established relationships between companies. Indeed, UIDC enjoyed very high credit ratings with lenders, chiefly because in the past it had always built for the long-term, retaining ownership for extended periods, and building significant equity in its projects. The fact that UIDC was a subsidiary to Aetna was also highly significant.

The economy in 1971-72 was generally stable, and lenders had not yet experienced significant exposure to interest rate fluctuation or inflation. Therefore, loan rates could be committed well in advance, and Water Tower Place, despite its potential risks, enjoyed this advantage. Aetna/MetLife committed to the permanent loan rate (8-5/8%) more than three years prior to occupancy of the building. The loan had a fifteen year term, and was non-recourse.

The fact that UIDC financed the project with a single loan meant that the mixed-use development was in effect cross-collateralized. Even though the project had different use components, its risk was lumped into one "all or nothing" package. For example, if the hotel had failed, and UIDC had been unable to meet its periodic debt service, Aetna/MetLife would have had the right to foreclose on the whole project, even if the other components had been healthy.

Each of the four key characteristics of mixed-use development addressed in Chapter Two--synergy, diversification, development risk and flexibility--played a role in the maturation of Water Tower Place. In many cases, these issues illustrate the degree to which the design and the financing of the project were integrated.

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22 Due to the size of the loan, Aetna split the debt 50/50 with Metropolitan Life Insurance Company. For administrative purposes, the financing was considered a single loan.
Synergy
As discussed above, the project development team worked very hard to create a synergistic atmosphere at Water Tower Place. Indeed, certain innovations which had little precedent were used to achieve this synergy. First, Water Tower was the only the second project in the country (after the Houston Galleria) to employ multi-level retail. This was considered highly risky at the time, as retail had traditionally been thought to only work at street level. Second, Water Tower was established around its retail component, whereas, according to the ULI, the majority of 1970s mixed-use developments were centered around office development. Third, the idea of crafting the office space around special destination uses was quite unprecedented. Fourth, Water Tower included an indoor "theater in the round" amphitheater, an amenity which was unique at the time.

The degree to which UIDC worked to provide this synergy is in some ways a reflection of the project’s financial structure. Since Water Tower was financed by a single loan, and in effect cross-collateralized as well, it follows that the borrower would want to maximize the synergy in the project. To achieve that synergy, the developer crafted the new real estate product with new, untested design ideas. The lender, on the other hand, could keep the developer in check by cross-collateralizing the project.

As mentioned earlier, UIDC had the flexibility to break with precedent for another reason: its outstanding credit relationship with lending sources. Lenders were aware that the developer fully intended to keep ownership of Water Tower Place for a long time, and that UIDC’s reputation would sink if the product did. Thus, the combination of corporate reputation, market research, and loan structure gave both players enough comfort to proceed with this new real estate product.

Indeed, there is evidence that the synergy created at Water Tower Place did translate into measurable economic performance. According to Elkin, a few years after opening, UIDC performed a survey of the project’s retail tenants, and found that 20-25% of the shoppers were coming from the Ritz Carlton and other neighboring hotels. The study also found that on average the hotel consumers were making larger purchases than other shoppers. Although the study did not explicitly observe above-market rents, the finding did suggest that retail revenues were increased by Water Tower’s synergistic atmosphere.
In 1986, Water Tower Place won a ULI Award for Excellence, and the jury chose the following relevant words for Water Tower Place: "As a mixed-use complex, Water Tower Place has set a standard of excellence for Chicago's downtown. Water Tower's atrium shopping mall accounts for the lion's share of all retail sales in the city's North Michigan Avenue district." This statement also suggests that the project's synergy has served an important role in its economic performance.

**Diversification**

Because Water Tower was financed with one loan, one would surmise that the diversification benefit—the decrease in default risk—would have had value in the loan negotiation process. However, mixed-use developments had not existed long enough for developers or lenders to draw conclusions about MXD economic performance.

Diversification did, however, benefit the project by allowing increased design flexibility. The multi-level retail was considered a highly risky innovation at Water Tower Place, since retail had never been developed above street level with the exception of freestanding department stores. However, the multi-level retail was financeable partly because it was developed in combination with less risky uses. Thus, the diversification of risk allowed flexibility in design and planning.

**Development Risk**

Without much in the way of precedent for this project, it would appear that both lenders and borrowers were taking great project-specific risk. Though UIDC performed and relied on several market studies during the planning phases, there were many unanswered questions in regards to design, construction, absorption, and demand. As an indication of the times, UIDC was able to proceed with permanent (and subsequently construction) financing based on its excellent reputation, even though Water Tower Place posed more risk than other projects before it. However, it must be noted that UIDC and Marshall Fields had a substantial equity commitment as well. The real estate development industry at the time was made up of large, institutional players, and each was willing to bear considerable development risk in exchange for an undiluted return.

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24 Real estate academia had not yet addressed the diversification effect either. The Hartzell, Hekman, Miles article was not published until 1986.
Physical Flexibility and the Conversion Option

As discussed in Chapter Two, financing terms would theoretically affect physical design issues. One might expect, for example, that if the developer is left with no option other than a cross-collateralized, recourse loan, he or she would have incentive to address the issues of design flexibility. This would give the developer additional versatility to reshuffle the components (thus taking better advantage of diversification) and to adapt to future market conditions.

Indeed, at Water Tower Place, the loan was implicitly cross-collateralized, and certain changes were made after construction which demonstrate that a mixed-use development can and did benefit from flexibility over the long-term.

First, Water Tower removed its amphitheater, which was not found to be a revenue-generating use, and today a movie theater stands in its place. Second, and more significantly, UIDC converted one floor of office space into an additional floor of Marshall Fields; the 100,000 square foot floorplate was found to be much more appropriate for retail than for an office tenant. Though the physical conversion incurred cost, the basic structural elements and building systems did not have to be altered, hence the benefit of responding to the market far outweighed the one-time construction expense. Furthermore, UIDC was able to make the changes without affecting the legal documentation of the project. The reciprocal easement agreement for Water Tower was written between the hotel, the condominium association, and the "commercial" piece (office/retail/garage), so a reconfiguration within the commercial component did not affect the operating documents.

It is also interesting to note that conversion was more plausible because the project was financed with one cross-collateralized loan. This conversion at Water Tower Place did not affect the lender, but if the project had been financed by one lender for retail and one for office, the strategic move might have been hampered.

Thus, Water Tower Place has continued to maximize revenue by reshuffling the uses within the MXD to respond to a changing market place.

As mentioned above, the original permanent loan reached its term in 1991. The refinancing of Water Tower will be discussed in Chapter Four.
COPELY PLACE, BOSTON, MA.
Opened in 1984

Copley Place, also developed by UIDC, opened eight years later than Water Tower Place. Although the expertise of UIDC remained consistent to both projects, Copley was developed under a different set of site constraints, local political considerations and economic conditions. Even so, both mixed-use developments demonstrate interesting links between product and finance.

Copley Place--the first project in U.S. history to be built over a highway interchange--was the long-awaited solution to a large, underutilized area between Boston's Back Bay and the South End. The site, which was owned by the Massachusetts Turnpike Authority, encompassed the air rights atop Route 90. Moreover, access to the site was complicated by highway ramps and commuter train routes.25

The City and State had long envisioned a mixed-use project at this location for two reasons. First, the 9.5-acre parcel included both a highly attractive triangular lot and an equally awkward and undesirable lot. The Authority knew that it had to package both lots into one development opportunity in order to achieve the development of both lots. Second, the Authority anticipated that a) only a project of very high density could support the exorbitant infrastructure cost that was required to make the site work, and b) a single use of very high density could not be absorbed into the marketplace at that site. Mixed-use was the only viable solution.

After the Authority tried unsuccessfully for years to revitalize the site, UIDC was given rights to negotiate a 99-year ground lease and a master plan with the regulatory authorities. The spaciousness of the 9.5 acre site, in addition to the local planning and zoning requirements, dictated that Copley Place, unlike Water Tower, should be horizontally-oriented. The horizontal plan worked well, as it fulfilled Copley Place's role as a much needed pedestrian "corridor" between the Prudential Center/Hynes Auditorium and Boston's famous Copley Square. The design was geared towards maximizing the flow of pedestrians through a long, dynamic space. (At the time of design, 60,000 commuters were expected to pass through Copley Place per day.) The

25 Unless otherwise noted, information on Copley Place was gathered from employees of JMB and UIDC (see interview list), and "Copley Place," Urban Land, April 1985, pp. 8-13.
7-31 Cutaway view, illustrating the links and relationships among the various uses in the complex.

7-32 The four office towers are connected by a sky lobby that provides direct access to the offices.
Copley Place
Boston, Massachusetts

Copley Place comprises two high-rise hotels, four interconnected office towers, a 100-store shopping gallery at the lower levels of the office complex, and 104 residential units (not shown).
pedestrian nature of the project was naturally well-suited for a mixed-use development, since it maximized the number of potential customers passing through the project. It is interesting to note, however, that while both projects focused on the design philosophy that customers would "make a day of it", Copley Place also encouraged pedestrians to pass through the project on the way to something else. Both approaches focused on attracting users into a dynamic atmosphere. At Water Tower the goal was to attract people to stay within the self-contained MXD. At Copley, the goal was to encourage pedestrians to enjoy the MXD in conjunction with the entire Back Bay area.

In describing the project's original goals and challenges, Elkin stated, "We perceived that Boston already had two very successful outdoor spaces for human interaction--Faneuil Hall and Newbury Street--but Boston did not have an indoor public space. We envisioned that Copley Place would be that indoor space." 26

<table>
<thead>
<tr>
<th>Project Statistics</th>
<th>Water Tower Place</th>
<th>Copley Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
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<td>Boston, MA</td>
</tr>
<tr>
<td>Year Completed</td>
<td>1976</td>
<td>1984</td>
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<td>Project Cost*</td>
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<tr>
<td>Project Size</td>
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<td>3.7 million sf</td>
</tr>
<tr>
<td># Stories</td>
<td>74</td>
<td>38**</td>
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<tr>
<td>Components:</td>
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</tr>
<tr>
<td>Office</td>
<td>200,000 sf</td>
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</tr>
<tr>
<td>Retail</td>
<td>725,000 sf</td>
<td>375,000 sf</td>
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<tr>
<td>Parking</td>
<td>640 spaces</td>
<td>1,432 spaces</td>
</tr>
<tr>
<td>Hotel</td>
<td>432 rooms</td>
<td>1,951 rooms</td>
</tr>
<tr>
<td>Residential</td>
<td>260 units</td>
<td>104 units</td>
</tr>
<tr>
<td>Amenities</td>
<td>health club, theater</td>
<td>health club, theater, community retail</td>
</tr>
</tbody>
</table>

* Project Costs are not adjusted for inflation.
** at tallest point

UIDC began the development process by performing several market feasibility studies. As described by one of UIDC's original development managers, "In the late 1970s, so many market factors were changing that we were constantly trying to adjust and

26 Norm Elkin, interview, June 1, 1995.
respond. At the time, studies showed that Boston was suffering from a substantial shortage of two uses: hotel space and parking. The other two markets, office and retail, were not as clearly in demand. At the time, Back Bay had little in the way of available Class A office space. Although there was good potential for office demand, full market absorption was viewed as risky. The same dichotomy applied to the retail component; though UIDC perceived a need for more high-end retail space, there was concern that Copley Place was too far from Boston's up-scale retail streets, Newbury and Boylston.

By this time, mixed-use development had been more widely implemented throughout the country; however, the residents of Boston did not treat Copley Place like a known quantity. In a display of unprecedented community involvement, over 25 citizen groups took part in the design approvals process, and UIDC had to work very hard to keep the project economically viable while cooperating with the community.

UIDC's market studies had to be carefully integrated with local input from the neighborhood groups to produce a design that worked for the developers, the lenders, and the community. Over the course of 200 local meetings, UIDC carefully negotiated with the local constituency, agreeing in some cases to include certain uses, such as the rental apartments and locally-run retail space, as a tradeoff for increased density. As a result of this extreme political sensitivity, it was decided that the project would be built on a fast-track basis, in order to proceed as quickly and smoothly as possible once key points in the approvals process had been reached.

A major event in the planning of Copley Place occurred when one of UIDC's two retail anchors unexpectedly backed out of the deal in 1979, part way through the development process. At the time, UIDC decided that rather than seek another anchor, it would add a second hotel to the project. At the same time, UIDC increased the square footage of the speculative office component, thereby reshuffling project risk by assigning different "weights" to the uses. Many months and $10 million later, the 3.5 million square foot project eventually incorporated five uses: hotel, office, retail, residential and parking.

28 Interestingly, MXDs in general were getting smaller in square footage. As opposed to an average 1.7 million square feet in 1970s MXDs, the average size of 1980s MXDs was only 760,000 square feet. Copley, at 3.5 million square feet, was extremely large in comparison. Schwanke, Smart and Kessler, "Looking at MXDs", pp. 20-27.
Initially, UIDC was in favor of contributing significant equity to the Copley Place project, as it had at Water Tower. However, as the scope of the project grew, the option of seeking equity partners became more attractive. UIDC formed a 50/50 joint venture with Westin Hotels for the first hotel and a similar arrangement with the Marriott Corporation for the second. For the central "commercial piece" (office/retail/garage), UIDC committed the entire equity piece but then, upon project completion, sold 50% of the equity to a real estate syndicate.

The process of procuring project lending started in 1980. Though UIDC did at first consider seeking a single construction loan from one lending source, it quickly became apparent that one loan would not be suitable for the different equity partnerships. Therefore, UIDC sought different construction loans for each component.

Since the mid 1970s, inflation had dramatically altered the economic climate, and banks had begun to use variable rate mortgages to protect themselves from interest rate risk. In addition, insurance companies had begun to utilize participating mortgages and joint ventures, as a means of creating upside to compensate for interest rate fluctuation and inflation. In 1980, interest rates were at an all time high (18-20%). Fixed rate financing, and therefore permanent financing, was highly unfavorable, given the rate levels.

As a result of the changing lending industry, borrowers had more leeway to construct creative financing mechanisms. "Mini-perms" which used floating rate debt allowed the borrower and lender to adapt more quickly to changing rates and still avoid yield maintenance agreements. Debt joint ventures allowed borrowers to take advantage of larger loan proceeds. Accrual mortgages and participating mortgages gave the developer lower interest costs in the earlier years. Each of these instruments gave borrowers more flexibility to create tailored financial structures for each individual project.

As lenders became more proactive in their involvement in real estate, new players entered the equity side as well. As a result of federal legislation in the late 1960s which created tax-driven partnerships for real estate, the national syndication business started
in the 1970s. Developers could now raise more equity and boost loan proceeds, in exchange for giving up part of cash flow.

In the early 1980s, Copley secured financing for the entire project with mini-perm and open-ended construction loans, which made Copley Place the first major project in the U.S. to be built without a permanent takeout arrangement. The advantages to short term debt were clear: UIDC could avoid the cost of high fixed-rate long term financing, UIDC could obtain commitments faster, thus continuing the momentum of the project, and UIDC could obtain larger loan proceeds than with permanent financing. These benefits outweighed the refinancing risk that UIDC assumed.

The first portion to break ground was the Westin hotel in 1980. Westin's 50% equity position brought both upfront cash to the deal and institutional credit in the eyes of lenders. The Westin loan came from Citibank—a floating rate, open-ended construction loan for $85 million with a market-rate spread. After the Westin started, construction began on the infrastructure platform which supported the "commercial piece" (the office, retail and garage components). Without a permanent commitment, UIDC could not procure construction funds for the infrastructure work, and had to finance the $22 million expenditure out of pocket. At the time, the risk of carrying the infrastructure costs was more attractive than the burden of having to secure permanent financing.

In 1982, contingent upon completion of the platform, UIDC acquired a $140 million loan commitment from Morgan Guaranty for the commercial piece. The loan had a five year term with a floating rate and was recourse. Equity was 100% owned by UIDC, and, as such, not cross-defaulted with the hotels or residential. Because the project was fast-track, the buildings were not designed to completion in 1982, and a guaranteed maximum price had not been reached when Morgan Guaranty made its commitment. As a result, the loan amount later rose to $190 million, though the loan increase was primarily based on improvements to and changes in the project scope. In addition to

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31 As defined by the AIA, a fast-track project is broken into multiple packages, which are then bid and awarded at different times. Some are awarded before design is completed, effectively overlapping design and construction.
Copley Place Financial Structure

(Mix of uses not drawn to scale)
Morgan Guaranty's loan, the commercial piece was financed ($18 million) by the then largest UDAG grant ever to be issued by HUD.

Construction on the Marriott started in 1982. The construction loan ($102 million), which was floating-rate and open-ended as well, was supplied by a bank consortium led by First National Bank of Chicago.\(^2\) Again, the loan was not cross-defaulted with the other components. Given the inherent project risk behind hotel work, and the fact that the hotel loans were non-recourse, both the Westin and Marriott loan spreads were 50-75 basis points above the commercial piece spread.

The residential component, which consisted of 26 moderate income rental units and 78 co-operative units, started construction in 1984. The combination of rental and co-ops (not a typical Boston product) was not palatable to residential lenders, so UIDC financed that component ($6 million) out of its own lines of credit. UIDC could not offer condominiums because the land was tied to a ground lease.

When JMB acquired UIDC in 1984, the shape of the financial structure changed at JMB's insistence. The Morgan Guaranty loan on the commercial component was paid off, in fulfillment of certain legal stipulations upon dissolution of UIDC. The Westin loan was also paid off. Aetna provided the takeouts for both loans. Furthermore, Aetna was able to offer JMB fixed rate, non-recourse loans. In exchange for fixing the rate and increasing the funding levels, however, Aetna received additional collateral on a property in Texas. The three remaining Copley Place loans were still not cross-collateralized. Also in 1984, 50% of the commercial piece equity was sold to one of JMB's real estate syndications (JMB/Carlyle), so that later in the year when JMB acquired UIDC, the commercial piece was split between JMB and JMB/Carlyle.

Today, the financing structure looks relatively similar to its original 1980 framework. Copley Place is owned by three entities: United Parcel Service (who purchased the Marriott equity in 1984 and 1994), JMB and JMB/Carlyle (the commercial piece) and JMB/Westin (the Westin). The debt is split into three loans, two provided by Aetna, and the third by the First Chicago Bank consortium.

\(^2\) Since 1982, this loan has been extended twice, and as anticipated, the first extension involved a substantial decrease in interest rate.
Synergy
Whereas Water Tower Place was designed—and subsequently financed—as one single entity, Copley Place was designed and financed as a grouping of individual buildings. The basic layout of the project, particularly its horizontal nature, meant that there was less emphasis on the bundling of uses. At Copley, the lenders each assessed their components as freestanding buildings, according to Gordon Keiser, Senior Vice President at JMB. Furthermore, the project was not cross-collateralized. Therefore, one would expect that neither developer nor lender was markedly concerned with the link between synergy and economic performance. Because the debt was short term, they also presumably had little interest in the long term appreciation of the project.

Indeed, synergy did not play a large role in the procurement of financing. Lenders looked at the individual rent projections of their separate components. Synergy, was viewed, however, as a positive factor for the general viability of the project. The concept of a large, indoor environment (particularly during Boston’s winter months) was appealing to lenders as a marketing strategy. Interestingly, Copley Place has since been highly praised for achieving that level of synergy. According to the jury for the 1988 ULI Awards for Excellence: "No other project in Boston has contributed more to the city’s vitality and sense of community than Copley Place. This large-scale, mixed-use project has created a thriving commercial environment linking diverse neighborhoods in Boston's Back Bay."33

Diversification
Since each component at Copley was addressed separately, lenders were understandably less interested in the overall cash flow of the project. Therefore, diversification was not used as a strong argument for Copley Place.

However, diversification did enter the picture in terms of project planning. For example, UIDC would not have been able to construct a one-anchor retail mall as a free-standing project; lenders would never have taken that risk. However, Morgan Guaranty was willing to look at the commercial piece as long as it was part of a larger, continuous project, with unofficial anchors a few blocks away at Prudential Center. Furthermore, the additional risk taken when UIDC increased the speculative office to 845,000 square feet would presumably not have been appealing in a freestanding office project. In

general, the reshuffling of uses throughout the development phase allowed UIDC to come up with the most viable, most diversified project that could be built at the time.

As Stuart Nathan, Executive Vice President at JMB pointed out, Copley's financing benefited from every form of diversification. First, the project combined long term loans with short term loans, thereby spreading the refinancing risk across time. Second, the project combined both leased space and purchased space, thereby producing different types of income. Third, the project carried construction loans as well as permanent loans, thereby diversifying terms and rates. This produced a more complicated, yet more diversified financial structure than Water Tower's, one which could more easily adapt to future financial cycles.

Development Risk
UIDC overcame a staggering combination of development risks: site constraints, technical infrastructure challenges, political scrutiny, complications associated with fast-track and the use of three different contractors, the burden of procuring different financing sources, and the negotiation of an unusually complicated reciprocal easement agreement.

UIDC's experience from Water Tower Place was crucial in solving this labyrinth of issues. Furthermore, UIDC took advantage of the flexible nature of real estate financing during the early 1980s to bring its product into fruition. UIDC controlled the immense risk of the project by dividing it into small pieces--distributing part to its equity partners and part to its lenders. Also, by protecting the project from cross-collateralization, UIDC was able to include the riskier components without jeopardizing the entire project.

It is interesting to note that throughout the industry, the issue of "parts vs. whole" was being addressed. Depending on the circumstances, projects were financed either as whole entities or as separate components. However, it does appear that the majority of projects were handled as a single entity (through either debt or equity partnerships) rather than as a kit of parts. In that light, Copley Place was unique. According to an Urban Land Institute 1986 survey of mixed-use projects, 38% of MXDs surveyed were owned by a single entity; 37% were owned by multiple owners of entire project, and 25% (including Copley) were owned by separate owners of components. Copley falls into
the last category. For financing, 33% were financed by a single source; 41% by multiple sources and 26% (including Copley) by multiple sources and by component.34

Once the development phase had been completed, JMB restructured the financing to its advantage, and was able to significantly reduce and control financing costs. Debt service was now fixed for the Westin and the commercial piece. The project was financed by separate sources, which meant that it was still not cross-collateralized. Aetna's loans were not participating mortgages, which meant that JMB's equity joint ventures had no additional burden of dilution. Most importantly, the loans were non-recourse.

Physical Flexibility and the Conversion Option
Compared to Water Tower, Copley was relatively "unbundled" in terms of design and finance. However, the commercial piece at Copley was cross-collateralized by Morgan Guaranty's loan. Interestingly, the issue of physical flexibility was discussed for this component. As mentioned earlier, the speculative office space (845,000 square feet) was thought to be very risky, and UIDC wished to hedge its position in case leasing did not proceed as anticipated. During the design phase, there was discussion of potential conversion from office to retail space. The issue arose again in 1984, when the project was just opening and JMB was acquiring UIDC. However, it was determined that the conversion would be far too expensive, and successful office leasing made the issue irrelevant.

In many ways, 900 North Michigan serves as the culmination of JMB/Urban's achievement in mixed-use development. From the architectural treatment of pedestrian entrances, to the integration of project amenities, to the intricacy of the loan structure, the project reflects lessons learned from its predecessors, Water Tower and Copley. 900 North Michigan is a creative, viable real estate product that works well in today’s market and is expected to adapt well to future changes in the real estate and capital markets.

In 1984, as part of its acquisition of UIDC, JMB took ownership of the architectural design and permits for 900 North Michigan Avenue. The site was perfectly situated on Chicago's illustrious Michigan Avenue, just blocks from Hancock Tower and Water Tower Place, and a short walk from Lake Michigan. Similar to both Water Tower and Copley Place, 900 North Michigan Avenue was deemed a good site for mixed-use development chiefly for economic reasons. The location was uniquely suited for many uses: retail and hotel (for which Michigan Avenue was widely known), residential condos (targeted towards an upscale market seeking an address along Chicago's "Gold Coast"), and office space (designated for a niche market made up of image-oriented, professional firms).

Like Water Tower and Copley, 900 North Michigan was designed to Class A standards, offering tenants, residents and guests a prestigious, image-oriented address on Michigan Avenue. The mix of uses was quite similar to Water Tower's, with the key difference that 900 North had a larger office component (550,000 square feet as opposed to 200,000).

Whereas Water Tower Place had been developed as one of the nation’s earliest large-scale mixed-use projects, 900 North Michigan was one of the last to be completed before the real estate recession of the late 1980s. In the years that had passed between the development of the Houston Galleria and 900 North Michigan, the mixed-use product had become increasingly sophisticated. MXDs in the 1980s were smaller on average.

35 Unless otherwise noted, all information for 900 North Michigan was gathered from employees of JMB (see interview list).
and more sensitive to their surrounding physical environments than their predecessors of the 1960s and 1970s. In addition, 1980s MXDs on average had a better mix of economically self-sustaining uses.36

Like Water Tower, 900 North Michigan was designed as a vertical mixed-use development. Furthermore, 900 North Michigan's financing strategy was similar to Water Tower's; capital was obtained from one source rather than many. In this sense, both projects can be considered "bundled" physically and financially. However, the comparison only applies to the general framework of the two projects; in terms of details, 900 North Michigan is a more complex, and therefore potentially more versatile, project.

The development and management team for 900 North looked closely at former MXD designs and determined that a mixed-use project had to fulfill two key architectural challenges. One, the project had to work as an integrated whole--a city within a building--so that casual shoppers, full-time residents and workers alike could enjoy all the various elements of the project. Two, the project also had to work as a collection of

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36 Schwanke, Mixed-Use Development Handbook.
separate components. UIDC and JMB had successfully accomplished the first goal at both Water Tower and Copley. However, the second had not always been there; Water Tower had missed some key connections between components, and Copley Place had not fully provided a distinguished identity for some of the uses, particularly the office component. 900 North Michigan set out to accomplish both.

The key to achieving that dual identity was the internal circulation system at 900 North. Each component--hotel, residential, retail, office and parking--had its own exclusive street-level entrance with its own security staff, and each had its separate elevator core. At the same time, each component had its own private accessway to the sixth level of the retail mall, which served as the heart of the project's public domain. On the sixth level, amongst restaurants and shops, there were four discrete access points (all secured) to the office tower, the hotel, the residences, and the parking garage. Thus, each component had its own private and separate identity, yet enjoyed convenient usage of all other components.

The financing of 900 North Michigan was equally thorough. JMB began this process in 1985, shortly after JMB acquired UIDC. According to Deborah Schenk, Senior Vice President at JMB, the developer's first decision was whether to obtain a permanent financing commitment, or to proceed without one, as they had at Copley Place. Many factors played a role in this decision. At the time, interest rates were at a reasonable level, but JMB felt that it stood a good chance of securing a lower rate if it waited. On the other hand, various elements of the project, particularly the hotel, posed considerable uncertainty, and JMB did not want to bear the entire project leasing and market risk. Furthermore, the total project cost, over $400 million, excluded the vast majority of lenders from even considering this deal, so JMB felt that it had to garner a preliminary commitment from one of the feasible capital sources. By procuring a takeout commitment, JMB stood a better chance of obtaining 100% financing, which would in turn allow JMB to secure 100% construction financing. Furthermore, JMB acknowledged that general capital market conditions were relatively favorable at the time, and that postponement of permanent financing might jeopardize the project. JMB decided to seek a permanent financing commitment.

Once the decision was made to seek a takeout, JMB focused on two key goals. First, it wished to secure financing in the most cost efficient manner, preferably from one capital source. Nathan explained that with a single lender, the borrower only needed to
coordinate with one set of lending policies and one corporate lending "culture", which posed an advantage both in the initial lending process and throughout the life of the project. Second, JMB wished to avoid cross-collateralization, thereby keeping each component as separate and flexible as possible.

By 1985, construction levels had risen tremendously, and the industry was beginning to acknowledge signs of overbuilding. Because of the increasing level of lender caution, obtaining a forward commitment was not possible without agreeing to a participating loan. This was particularly true for developers seeking 100% financing.

Lenders had also taken on increasing risk by joint venturing with developers. In the mid 1970s, as participating debt had gained popularity, insurance companies had also started seeking equity positions in exchange for committing takeout financing. In this arrangement, the lender was protected by certain project risk because the agreements were subject to construction completion and leasing requirements. Eventually, however, lenders further increased their risk by agreeing to do front-end joint ventures, in which they committed to equity positions prior to the start of construction, thereby fully sharing project risk.

In 1985, JMB presented the deal to the three sizable lenders in the market: Prudential Insurance, MetLife, and Teachers Insurance and Annuity Association (TIAA). Prudential was not interested in the deal, and MetLife priced the deal very conservatively because of the hotel risk. TIAA was able to offer the most competitive rates, and gave its preliminary commitment for the project. As with Water Tower Place, the condos were not included in the permanent loan.

After considerable negotiation, JMB and TIAA came up with a permanent financing package that worked well for both parties. TIAA would commit to finance 100% of project costs, yet the funds would be divided into separate loans with separate rates for each major component. Once again, design mirrored financing. The project was treated simultaneously as a single entity and as a set of distinct parts.

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The deal was structured as follows. One first mortgage financed the hotel component ($70 million priced at 10.75%), and another first mortgage financed the "commercial piece" (office/retail/garage) ($228.5 million at 10.25%). Both loans were non-recourse and long term (35 years). In addition, TIAA agreed to purchase the project site from JMB for $60 million and lease it back to the project ownership. The ground lease was subordinated to both first mortgages.

In addition, second and third mortgages were placed behind the commercial loan. The second mortgage was created for operating deficits; TIAA committed to fund 50% of operating deficits on the commercial piece, up to $20 million. A third mortgage on the commercial component was created in the amount of $50.5 million. The mortgages were paid out of available cash flow, with accrual features, yet interest rates were market rate. A second mortgage was also placed on the hotel to fund 100% of its operating deficits up to $10 million.

The deal gave 900 North Michigan the best of both worlds. Similar to Water Tower Place, it had a single source of capital, which meant less complication. Similar to Copley Place, it avoided cross-collateralization to the greatest extent possible, thereby allowing the flexibility to default or refinance the hotel without losing the commercial piece. Furthermore, JMB subdivided the components so that each could be treated as separate legal entities. 38

<table>
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<th>Comparison of Project Financial Structures</th>
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<td><strong>Project Cost</strong>*</td>
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*Project costs are not adjusted for inflation.

38 The commercial parcel includes the retail, office and garage components and all the air rights above them, with the exception of the condos and the hotel parcel.
900 NORTH MICHIGAN FINANCIAL STRUCTURE

(mix of uses not drawn to scale)
For TIAA, the deal worked well too. The hotel loan earned a higher spread, thus compensating TIAA for the added risk, while the commercial component could be given a more competitive rate. In addition, TIAA secured upside potential by requiring participating mortgages, in exchange for bearing the interest rate risk of a takeout commitment.

Overall, the deal addressed issues of market adaptability and timing by recognizing that a mixed-use project of this scope would take some time to stabilize. For example, the first mortgages had a pay rate which was less than the coupon rate for the first five years, which lowered debt service in the initial years. Furthermore, the cash-flow feature of the second and third mortgages allowed debt service to adjust with the performance of the project. Finally, operating deficits from the first mortgages were funded in part by the second mortgages, which provided considerable relief during lease-up. The overall diversity of terms between the various loans allowed 900 North more time and more flexibility to respond to the market.

The construction loan was subsequently procured by a consortium of banks, and was larger than the permanent loan, in order to cover the condos. When construction was completed, two of the banks committed to a short term loan to finance the condos, which were expected to sell over the first 2-3 years. The condo units sold at a record pace, and the proceeds were used to pay down the construction loan. The overage went towards JMB’s share of operating deficits.

In October 1988, just after the opening of the office and retail components, TIAA assumed the takeout as scheduled. Today, all four mortgages remain unchanged. JMB has a lockout period of 17 years, at which time it must give TIAA first right of refusal to refinance the project.

**Synergy**

As addressed above, 900 North’s circulation plan greatly improved the opportunity for synergy between the uses, and did not have to rely on untested design concepts to do so. At the same time, 900 North’s design kept the components relatively separate, so that the project minimized the negative effects of multiple uses. At 900 North, there was a strong interest on the part of both developer and lender to enhance economic performance through synergy. Both participants had a stake in the upside potential of the project: JMB through equity and TIAA through contingent interest. Furthermore,
given that the loans matured in 35 years, there was aligned interest in the long term viability of the project—tenant retention, occupancy levels, etc.

According to Frank Barrios, General Manager of 900 North Michigan, the synergy created by the project has not translated into premiums on rents to date. However, the project has created a highly prestigious image, which tenants value very highly. 900 North’s market image has kept the project competitive with other properties in its market.

**Diversification**

Although diversification did not directly affect the terms of TIAA’s loans, diversification did play a role in the financing. Because the project was mixed-use, JMB had a certain degree of versatility in allocating project costs. The hotel provides a perfect example of this added flexibility. Based on cash flow projections for the hotel, TIAA would not lend more than $70 million, which was not sufficient to fund the hotel. However, TIAA was willing to allocate increased loan proceeds towards the commercial component, based on projected net operating income, and because the commercial component had met certain pre-leasing requirements. Therefore, JMB could procure funds to cover the whole project. Thus, JMB was able to construct a hotel by diversifying it with other uses, while 100% of the cost of a freestanding hotel would not have been financeable.

The same allocation issue affected the condos. Even though JMB’s post-construction loan on the condos covered a 2-3 year sales period, this still meant considerable risk for JMB. If the condos did not sell, JMB would have to pay the loan out of pocket or try to refinance. Hence, JMB and the condo lenders made the cost allocation for the condos slim, so that JMB’s exposure was minimized.

Furthermore, it is interesting to examine the use of participating debt at 900 North. If mixed-use projects produce a more stable income stream than single-use projects, then the upside potential for contingent interest is restricted. This is advantageous to the borrower and disadvantageous to the lender. On the other hand, if the Mouchly/Peiser theory is valid, then mixed-use projects appreciate to a greater extent than single-use, and the back-end participation is presumably greater. At 900 North Michigan, the success of the participation clause depends on which effect—low volatility or high returns—is stronger. The timing is presumably suitable to both parties; JMB needs the relief and flexibility in the short term, when the project is still stabilizing, yet can
"afford" the diffusion of cash flow in the long term, when the project has increased in value.

**Development Risk**

Although the project was extremely complex to design and construct, JMB stood to gain from the development, management, leasing and operations experience of its employees. According to employees at both JMB and TIAA, UIDC/JMB's reputation was the key factor driving TIAA's commitment to the project. According to Schenk, this deal made it through its complex negotiations process because of the lasting relationships which were formed along the way.

JMB worked to minimize its development risk in a number of ways. First, JMB avoided fast-track construction, which was regarded in hindsight a mistake in the development of Copley. Second, JMB designed the project so that each component, to the fullest extent possible, responded to the market requirements of that particular use. Third, JMB was able to acquire a fixed-rate, permanent funding commitment from TIAA, an experienced lender in the area of mixed-use development. This commitment, and the fact that JMB met pre-leasing funding conditions prior to the start of construction, allowed JMB to secure 100% construction financing, which minimized interest rate risk and capital market risk.

As with its predecessors, timing was a risk at 900 North Michigan. Absorption rates held some positive and negative surprises for JMB. Feasibility analyses had predicted that the condominiums and hotel components would be the weakest in the project; however, both were extremely successful from the start. The office portion was 100% occupied as of July 1989, including two large, long-term tenants. Retail experienced acceptable occupancy levels but suffered from below proforma rents, due to the late 1980s glut of retail on Michigan Avenue and the overall financial condition for national retailers in the late 1980s. Parking was a less significant source of revenue than originally anticipated due to a management decision to offer reduced parking rates to shoppers. Nevertheless, JMB and TIAA had made full provision for absorption problems through the second mortgage for the funding of operating deficits and the accrual features of the mortgage loans.

**Physical Flexibility and the Conversion Option**

Like Copley, 900 North was not cross-collateralized. Therefore, one would expect less concern with flexibility and conversion. Indeed, the future flexibility of the building was
not addressed during the project planning process. According to Barrios, conversion from one use to another would not be suitable, because the costs would be unjustifiably burdensome and considerable rentable square footage would be lost.

**CASE SUMMARY**

These three highly regarded projects--Water Tower Place, Copley Place, and 900 North Michigan Avenue--represent three distinct points along the historical continuum of mixed-use development. In hindsight, each project took advantage of different unique attributes of mixed-use development to gain the cooperation of lenders and other project participants.

A brief summary of each project and its unique approach sheds light on the gradual evolution of mixed-use development. In the early 1970s, Water Tower Place was developed in an industry made up of large, long-term players, each willing to take considerable risk in exchange for undiluted returns. With its upstanding reputation and the stability of the real estate lending industry, UIDC focused heavily on creating synergy, and achieved certain innovations--multi-level retail, destination office, and the inclusion of new amenities--without losing the commitment of its lenders. Furthermore, after project completion, UIDC took advantage of the physical conversion option to maximize responsiveness to the market.

In the early 1980s, Copley Place was developed in an entirely different lending landscape. Real estate was gaining popularity as an asset class, scores of new players had entered the industry, and competition was growing. Rather than seeking one long term investor, Copley involved a myriad of financial players, each interested in carving its own slice of risk and return out of the project. Commitments were based on returns and tax benefits rather than relationships, and were generally short term. As such, it was more appropriate for UIDC to focus on diversification and the management of development risk than synergy. The project was divided into a number of separate entities; risky components were shuffled together with less risky uses; and UIDC arranged a diversified set of loan terms to limit refinancing risk.

In the mid 1980s, 900 North Michigan was completed in a real estate environment that was rapidly cooling off. 900 North was successful in that it reflected the advantages of both its predecessors, yet established a new level of innovation. The project buttressed its upside with synergistic design, and truncated its downside with diversification and
the legal separation of uses. JMB and TIAA created a financing arrangement that
managed risk while fully capitalizing on the unique attributes of mixed-use.

In summary, these cases demonstrate a progressively sophisticated utilization of
financial vehicles, market responsiveness, and risk management to implement projects of
great size and complexity. The success of the trio suggests that regardless of market
conditions and economic trends, an innovative project can be successfully supported by
a well-conceived financial and legal framework.
CHAPTER FOUR

In the last five to seven years, the evolution of mixed-use development has been interrupted by the severe real estate recession. Nonetheless, industry participants generally believe that mixed-use projects will be built again, and it is important to examine the features of this innovative product type that are most suited for the economic climate of the future. Chapter Four examines the recent link between the real estate industry and the capital markets to draw conclusions about the shape of mixed-use development in the future.

EVOLVING FINANCIAL MECHANISMS

Though construction virtually came to a halt soon after the opening of 900 North Michigan, innovation in real estate financing did not, and the industry has continued to search for more efficient ways to bring successful real estate products to investors. By the late 1980s, supply had become completely unhitched from demand, and rents and property prices thereafter steadily declined throughout the U.S. As short term loans on hundreds of projects matured, the lending industry discontinued its supply of real estate capital.

In response, the public capital markets looked for ways to fill the vacuum, and did so by reviving two financing mechanisms: the real estate investment trust (REIT) and the commercial mortgage backed security (CMBS). The REIT served as a way to finance real estate equity through public securities, the CMBS through securitized debt. Both instruments reduced the cost of capital for real estate holders, created liquidity for real estate investors, and provided tax benefits for all participants.

A brief return to the Water Tower case illustrates how these renewed financial mechanisms apply to mixed-use development.

Water Tower Place

In Chapter Three, Water Tower Place was presented as the most simple and traditional of the three financial deals. However, in the early 1990s, Water Tower was refinanced to take advantage of a new real estate lending source: the capital markets.
In 1991, the 15-year Aetna/MetLife loan on Water Tower Place matured. At the time, conventional lending had largely dried up, but due to the high profile success of Water Tower Place, traditional lending still represented an option. At the time, JMB wished to increase the level of debt based on the project’s appreciation over the last 15 years.  

JMB received proposals from two life insurance companies and one bank group for the refinancing; however, Goldman Sachs offered the most competitive deal in the form of a single-asset CMBS. Goldman Sachs and JMB negotiated terms that would create one of the first non-RTC CMBS transactions of the 1990s. Goldman Sachs sold $170 million of debt securities to investors at a competitive interest rate which was lower than the original Aetna/MetLife loan and lower than rates offered by the traditional sources.

The securitized offering did not, however, include the hotel, which was considered (similar to 900 North Michigan) the riskiest component of the project. On the one hand, this meant that JMB could keep the hotel separate and avoid cross-collateralization. On the other hand, JMB now had to seek hotel financing from conventional sources. Though JMB could market the benefits of synergy by emphasizing that the hotel was part of a mixed-use development, it had to finance the hotel as a free-standing entity. After considerable effort, JMB received a commitment from a French lender for a five year, floating rate loan of $30 million, with the additional requirement that JMB purchase an interest rate cap. Though this arrangement was not optimal, JMB accepted it.

In some ways, the timing of the Water Tower refinancing was advantageous to JMB. In the early 1990s, the rating agencies’ real estate underwriting policies were still being formulated. On the Water Tower deal, the agencies agreed to a $160 million (AA) tranche and a $10 million tranche which was unrated by Moody’s and rated (AA-) by Duff & Phelps. Since then, the rating agencies have tightened their underwriting standards for debt service coverage and loan-to-value ratio. According to Keiser, Water Tower Place might not have received the same tranche structure if it had been securitized today (based on the cash flow presented in 1991).

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39 All information for Water Tower Place was gathered from JMB and UIDC employees (see interview list).
40 Securities were sold to private investors under 144A conditions, thus the interest rate is proprietary.
41 The unrated (or AA-) tranche was priced 60 basis points higher than the AA piece.
WATER TOWER PLACE FINANCIAL STRUCTURE
(mix of uses not drawn to scale)
Water Tower's repositioning from traditional to securitized financing had several interesting implications. First, at a time of capital shortage, JMB was able to refinance the project with fixed rate financing (with the exception of the hotel). Second, JMB was able to double the debt level placed on the project from $100 million to $200 million ($170 CMBS plus $30 hotel), thereby increasing its leverage. Third, JMB removed the hotel from cross-collateralization, thereby splitting the risk into discrete parts. Because the project had already been developed, and the reciprocal easement agreement already drafted, the introduction of a second lending source did not pose considerable legal or administrative problems. Though JMB placed floating rate debt on the hotel, it had the option to seek more favorable terms at any time during the term, as the debt was entirely prepayable without penalty.

At this point, the specific attributes of mixed-use development were generally recognized as suitable for debt securitization. Diversification was more widely recognized, since the lending community had watched the property types fluctuate differently during the late 1980s real estate debacle. With an income stream that was potentially more stable over the long-term than single-use, mixed-use development served as a good single-asset CMBS.

In 1993, Water Tower Place was restructured to incorporate yet another 1990s financing vehicle: the equity REIT. In October of that year, JMB formed Urban Shopping Centers, Inc., a REIT with a market capitalization of over $400 million, comprised mostly of high quality super-regional and regional malls.

Similar to the CMBS, the REIT included the equity of the commercial component, but did not include the hotel. The hotel equity was split 75% by JMB and 25% by the hotel operator. As such, both the debt and equity portions of the hotel were now separated from the rest of the project.

**FLEXIBILITY AS THE FUTURE FOCUS**

The success of the Water Tower refinancing demonstrates that the real estate industry now enjoys yet another level of flexibility. As discussed in Chapter Two and evidenced in Chapter Three, many of the qualities which make mixed-use unique are centered around flexibility. Synergy is a market advantage which allows a project to appeal to a very diverse set of users in any number of different ways. Diversification allows the developer and lender to blend and reshuffle different uses so that the project is
economically viable now and in the future. Physical conversion allows the developer to achieve what most projects can't: to physically shift one use to another in order to respond to emerging market conditions. If planned properly, the mixed-use development is built to endure long term shifts in both the real estate and financial markets.

Having observed and examined these three cases and others, it appears that future generations of mixed-use development must continue to capitalize upon the unique qualities of mixed-use development. This challenge can be categorized into three key areas of flexibility: financial, design, and legal.

Finance
According to Gordon Keiser at JMB, since the real estate crash, lender perception of mixed-use development has changed. Keiser claims that lenders are now acutely aware that different product types moved differently through the economic turmoil of the past seven years.42 Today, Keiser can show lenders how the various component rents fluctuate, whereas the net operating income of the whole project stays relatively stable. Diversification has become a significant factor in the negotiation process, and according to Keiser, lenders recognize it to the extent that they are willing to increase loan proceeds.

This suggests that as real estate data becomes increasingly available in the industry through electronic information services and through an increased willingness to perform this type of analysis, diversification may increasingly become a key advantage of mixed-use development.

While the real estate recession has indirectly highlighted the advantage of mixed-use development as discussed above, another change in lending will hurt mixed-use. Recently, lenders have set very stringent policies in order to decrease average loan amounts. According to a number of sources in the lending industry, lenders are limiting loan proceeds to $100 million. This means that developers or owners of mixed-use who wish to acquire, develop or refinance with traditional lenders will be forced to employ more than one source of financing. Though this will not necessarily raise the cost of

42 Indeed, just in looking at the three cases, the risk shifted between product types over time; Water Tower's greatest risk was the retail and condos, Copley Place the office component, and 900 North the hotel.
capital, it will prohibit single-source lending structures like 900 North Michigan's, at least in the foreseeable future.

A clear solution to the loan limit problem would be the use of REITs or CMBS. Though both vehicles involve extensive legal and administrative effort at inception, both ironically simplify actual project lending and create economies of scale.

Through a REIT, for example, a company can purchase an existing mixed-use development relatively efficiently. The REIT can commit cash for 50% of the purchase price and finance the remainder with secured or unsecured debt. The REIT therefore enjoys an undiluted equity position, and quicker, less expensive use of debt financing. In regards to new development, the use of REITs is less certain, since most of the focus has been on the acquisition of existing properties. New development may not be suitable for REITs, since the commitment of funds to a non-revenue-generating investment (construction) may have too strong a negative impact on earnings. This problem would be particularly apparent with mixed-use developments, since they take longer to design and construct.

CMBS poses some of the same advantages as REITs. The project can most likely be financed with one loan, thus solving the single-source challenge. The "lumpy" risk of mixed-use development which is caused by the combination of different uses is handled well by tranching. Tranches create different risk profiles, so that each investor can assume its desired level of risk in the MXD investment. In addition, CMBS increases liquidity for all parties involved, which allows projects of very large size, such as MXDs, to more easily acquire financing. According to Wayne Brandt, Director at Nomura Securities International, loan size in CMBS today ranges from $30 million to $300 million, with an average size of approximately $100 million.43

The pertinent question is whether these new instruments, REITs and CMBS, will allow more innovation in the design of mixed-use developments. According to Brandt, the chief concerns of underwriters are not the specifics of design and amenities but 1) the existing cash flows and 2) any complications in the legal ownership structure of the project. Therefore, it appears that innovation will be tolerated by CMBS as long as the project has established a stable net operating income. REITs, on the other hand, may be

less tolerant of innovation, as REITs rely on growth to increase equity value and may not tolerate untested market ideas at the risk of harming periodic earnings.

With Water Tower Place, neither the REIT nor the CMBS included the hotel, which indicates a degree of risk aversion from both financial mechanisms. However, it should be noted that the advantage of both REITs and CMBS is that at a given price, they will finance any real estate product, whereas traditional lenders are more inclined to give an "all or nothing" response.

**Design**

As theorized in Chapter Two, a project which can be physically modified in response to market trends holds more value in the long run. With the exception of Water Tower Place, the three cases did not provide extensive examples of this strategy. While this could be a function of the financial and legal structures behind these projects, it could also be a function of time. The cost of converting square footage may only be justified when a project has aged considerably, or when a building has lost its competitive position to newer buildings in the market. To illustrate the advantages of flexible design, it is useful to examine one of the nation's first mixed-use developments, the Prudential Center. The focus on flexibility demonstrated by the Prudential's recent reshaping provides an excellent example of the value of physical flexibility.

*The Prudential Center, Boston, MA*

Developed in 1965 by the Prudential Insurance Company of America, the original Prudential Center was 4.3 million square feet in size. The project's primary use was office space (1.7 million square feet), with sizable components in housing (781 high-rise apartments), retail (467,000 square feet), hotel (1,208 rooms) and parking (3,100 spaces).

In the mid 1980s, in response to the competition created by recently completed Copley Place and a general need to add flexibility to its real estate portfolio, Prudential began the planning stages for a major redevelopment and expansion plan for the site.

The approach for reaching all three goals was to create a plan that was flexible for the future. Prudential's design team conceived of a master plan that included five new development sites, (1.5 million square feet of office space, condominiums, and a local commercial center), each of which could be developed separately. Unlike previous
expansion plans that Prudential had considered, this master plan did not require exorbitant infrastructure changes, so that the Prudential could build one component without having to build the others to justify the cost. For each site, Prudential had the flexibility to either act as leading developer, joint venture partner, or landlord to a third party.

As written by Gary Hack, professor at MIT and a lead designer in the Prudential master plan effort, "As the result of an agreed-upon massing scheme, each block can be designed by a different architect, and can be constructed in almost any sequence imaginable. Prudential was attracted to this flexibility, which allows it to respond to emerging opportunities and changing markets." Furthermore, Prudential worked with the City of Boston to terminate an ordinance that had regulated the project since inception, so that Prudential now has the flexibility to sell, syndicate or refinance any of the existing components on the site. Though the parcels remain unbuilt until market conditions merit development, the flexibility of the master plan has inherently created additional value.

Legal Structure
Given the added layer of development and operational complexity in mixed-use developments, the legal framework must include reciprocal easement agreements, contracts with hotel operators, and agreements with condo associations, not to mention conventional financing documents. As pointed out in 900 North Michigan, although the legal subdivision was a complicated and expensive procedure, it allows JMB full flexibility to sell the leasehold improvements or refinance, which paves the way for versatility in future markets.

Many approaches to legal flexibility exist, and one example in particular, the Denver Dry Goods Building, demonstrates an increasingly common solution to creating value through a strategic framework.

Denver Dry Goods Building, Denver, CO
Developed by the Affordable Housing Development Company (AHDC) in 1993 (in conjunction with the Denver Urban Renewal Authority, or DURA), the 350,000 square foot Denver Dry Goods project converted a single-use department store into a thriving

mixed-use project. For five years, the historic brick building stood vacant and was considered useless; department stores would not even consider the building because stand-alone retail was no longer considered viable. Mixed-use development was the only concept that would work on the site, and after many developers failed, AHDC succeeded in combining offices, residential units and retail within the building's historical envelope.45

AHDC had to create a complex design and financing strategy to bring the project into fruition. Initially, lenders and local businesses alike were skeptical that the deal would go through and therefore declined to commit. As a result, AHDC created three commercial condominium units, which effectively divided the project into smaller, more manageable pieces. The Robert Waxman Camera Company, a local retailer, committed to buying one of the condo units and successfully obtained financing. As a result of this visible commitment to the project, national retail tenants followed. Once the retailers had committed, lenders were willing to look at the low-income housing component.

The condo structure allowed AHDC and DURA to accomplish many things. First, it divided the risk into smaller pieces, so the project could gradually garner full financial support. Second, it allowed AHDC to attract the appropriate owners for each unit, so that each owner received the appropriate return on its component. According to Chuck Perry at Perry/AHDC, the Waxman unit would have only worked with an owner-operator; the housing would have only worked with a non-profit owner; and the national retail would have only worked under for-profit ownership. Third, the condo units gave the project future flexibility. The building still has a fourth unit, which consists of four partial floors of the building. Since the vacant unit is legally separate, AHDC has the flexibility to respond to the market with the most viable use, and to attract the right ownership. Fourth, the condo structure allows the building to be simultaneously treated as a whole and as a kit of parts. This is appropriate particularly because the various users of the building have very different needs. The benefits of mixing uses are kept intact, while the complications are minimized.

Interviews with developers and lenders indicated that the commercial condominium approach has become more and more common. Many existing projects are looking to condominiumization as a means of adding flexibility to already successful projects.

45 All information on the Denver Dry Goods Building was gathered from employees of AHDC (see interview list).
CONCLUSION
This thesis examines the extent to which production and financing interact to implement innovative development products—specifically mixed-use developments. In Chapter Two, the basic underlying fundamentals of mixed-use development were identified, and in Chapter Three, actual case studies were presented against a theoretical backdrop.

Indeed, from an evolutionary viewpoint, developers and lenders have increasingly made good use of MXDs' unique attributes to facilitate the development process. As originally stated, though synergy is still not recognized as having a measurable impact on the economic performance of a project, it does have observable effects on long term market image. Given the number of possible determinants behind economic performance—location, exogenous market conditions, local competition, timing, etc.—it is understandable that the industry has not pinpointed synergy as the sole key factor behind MXD success. However, as the analysis of real estate information becomes widely accessible, the perception may shift in favor of synergy, particularly in regards to the Mouchly/Peiser theory of long term appreciation.

As noted in Chapter Three, the diversification effect held little importance in 1971 when Water Tower Place was being financed. Yet today, lenders are fully cognizant of the specific advantages of mixing uses on one site. As with synergy, this effect will most likely be increasingly recognized as information is further disseminated. Eventually, as hypothesized by Childs, Riddiough and Triantis, mixed-use developments may benefit from lower default premia. Development risk has presented and will continue to present very tough issues for developers of mixed-use developments. However, the introduction of new instruments in the capital markets may alleviate some of these risks, since capital will be more accessible for large-scale projects. Finally, as existing mixed-use developments across the nation mature, there may be increased incidence of physical conversion. As evidenced by the Prudential Center, the flexibility afforded by careful design and planning can add direct value to a project.

Regardless of how the economic climate fluctuates in the future or when the next generation of financial vehicles emerges, developers of mixed-use will need to focus on flexibility. Only through innovative design, long-term financial structures that carefully disperse risk, and legal provisions that create ongoing flexibility, will developers be able
to create projects that have all the benefits of physical bundling and still enjoy the independence of separate entities. If developers can achieve both, they are maximizing the advantages of mixed-use development and minimizing its shortcomings.
BIBLIOGRAPHY


Riddiough, Timothy J. "Incentive Issues and the Performance of Participating Commercial Mortgages." *The Real Estate Research Institute*


APPENDIX

PROJECT TEAMS

Water Tower Place
Chicago, IL

Developer: Urban Investment and Development Co. and Marshall Field & Company
Architects: Loeb, Schlossman & Hackl, Chicago
Consulting Architect: Murphy/Jahn Associates, Chicago
General Contractor: Inland Construction, Inc., Chicago

Copley Place
Boston, MA

Developer: Urban Investment and Development Co.
Architects: The Architects Collaborative, Inc., Cambridge
Landscape Architect: The Architects Collaborative, Inc.
General Contractor: Perini Corporation, Boston

900 North Michigan
Chicago, IL

Developer: JMB/Urban Development Co.
Architects: Perkins & Will and Kohn Pedersen Fox Associates (Chicago and New York)
General Contractors: J.A. Jones Construction Co.
Construction Manager: Inland Construction Company, Chicago
INTERVIEW LIST

The following people were interviewed for this thesis:

Charlie Wurtzebach, Heitman/JMB, January 5, 1995
Stuart Nathan, JMB Realty Corporation, May 31, 1995
Deborah Schenk, JMB Realty Corporation, May 31, 1995
Gordon Keiser, JMB Realty Corporation, June 12, 1995
Frank Barrios, Urban Retail Properties Co., June 1, 1995
Norm Elkin, formerly with JMB/Urban, June 1, 1995
Steve Murphy, Equitable Real Estate, April 5, 1995
Robert Mulvaney, formerly with Equitable Real Estate, May 3, 1995
Bob Walsh, Prudential Realty Group, April 28, 1995
Dennis Greene, Vector Property Services, Tabor Center, March 27, 1995
Bernard Frieden, Massachusetts Institute of Technology, March 9, 1995
Gary Hack, Massachusetts Institute of Technology, June 14, 1995
Langley Keyes, Massachusetts Institute of Technology, December 1994
Carol Nichols, Teachers Insurance and Annuity Association, April 19, 1995
Joan Fallon, Teachers Insurance and Annuity Association, June 1995
Andrew Florance, Realty Information Group, June 1995
Staman Ogilvie, Hines Interests Limited Partnership, April 5, 1995
Edward Henson, Henson Williams, March 6, 1995
Jonathan Rose, Affordable Housing Development Corporation, January 13, 1995
Chuck Perry, Perry/Affordable Housing Development Corporation, March 27, 1995
Ross Berry, Janss Corporation, April 5, 1995
Tom Black, Urban Land Institute, January 1995
Dean Schwanke, Urban Land Institute, January 1995
Susan Leff, Shawmut Bank, January 26, 1995
Bill Fitzgerald, John Hancock Mutual Life Insurance Company, April 28, 1995

Wayne Brandt, Nomura Securities International, July 7, 1995

* In cases of multiple interviews, date represents first interview.