The Case for Pension Plan and University Endowment Equity Investment in Brownfields in the Urban Core of Major Metropolitan Areas

by

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# THE CASE FOR PENSION PLAN AND UNIVERSITY ENDOWMENT EQUITY INVESTMENT IN BROWNFIELDS IN THE URBAN CORE OF MAJOR METROPOLITAN AREAS

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ABSTRACT

The purpose of this thesis is to present a case for institutional equity investment in brownfields in the urban core of major metropolitan areas. Pension plans and university endowments are the primary institutional investors focused on in the study, due to the implied obligation to seek economic and social returns associated with their investments.

The thesis will discuss primary forces that have historically limited institutional investment in brownfields in urban core communities as well as recent demographic and market trends in brownfield redevelopment and institutional equity investment in real estate. The thesis will include an analysis of two case studies, and implications for future trends in institutional equity investment in underserved communities in the urban core of major metropolitan areas.

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**TABLE OF CONTENTS**

## Chapter I: Introduction

Institutional investors represent powerful players in the real estate equity market. Pension plans were estimated to own about $148.7 billion, or 36.9%, of the real estate equity market in 2002 (Fickes, 2003). In 2003, pension plan investors are expected to channel about $14 billion to the U.S. real estate equity market (Fickes, 2003). Institutional investment flows have influenced the pace, location, and extent of real estate equity investment in the United States. This has had a significant influence on the pattern of real estate equity investment within the national real estate market. Growing suburban markets benefited from institutional capital flows between the 1970s and 1990s, while many communities in the urban core suffered from the combined, and related, effects of the preponderance of brownfield sites and the "lack of institutional capital" directed at infill sites (Gordon, 2002). The U.S. Environmental Protection Agency (EPA) defines brownfield sites as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant" (EPA, 2003). Based on the U.S. EPA's estimate of the total number of brownfield sites, the projection of the number of opportunities appropriate for institutional equity investment is approximately 10% (Gerst, 2002).

Institutional interest in real estate equity dates to the early 1970s. Initially, institutional equity investment in real estate arose from the need to find investment vehicles that would offer better performance than the stock market, which lost 40% of its value between 1973 and 1974, as well as the bond market, which suffered significant losses during the 1970s due to unexpected inflation (Winograd, 2001). For pension plan management, the passage of The Employee Retirement Income Security Act of 1974 (ERISA) was a formal endorsement of asset diversification (Black, 1997). Since then, while the allocations of pension plan portfolios have fluctuated significantly, real estate has been generally recognized as a separate asset class and perceived as having a significant role in reducing the risk of the mixed-asset portfolio. Since the 1980s, the paucity of institutional equity investment in brownfields projects has contributed to the lack of private real estate investment in urban core locations, which tend to have a

relatively high number of brownfield sites due to historic industrial and manufacturing uses.

Public pension plans and university endowments, particularly those that are large and have the capital and capacity to pursue such opportunities on a cost-effective basis, are well positioned to seek urban infill investments, which can offer higher risk-adjusted returns. Sponsors of pension plans and university endowments have a fiduciary responsibility to seek investment opportunities that will satisfy the minimum required returns necessary to meet beneficiary payment obligations. However, recent attention has been given to the idea of an implicit secondary obligation of public pension funds to make "affordable housing and urban infill investments, as long as it is prudent" (Gordon, 2002).

Given the preponderance of brownfields within the urban core of many of our nation's major metropolitan areas, the implicit obligation of university and college endowments that are based in center city locations is compelling. According to a joint study by the Initiative for a Competitive Inner City (ICIC) and CEOs for Cities, the number of college and university institutions located in the urban core nationwide is estimated at 1,902 (ICIC et. al., 2002). Higher education institutions at the urban fringe number 914 and those that are in non-urban locations number 933 (ICIC et. al., 2002). Higher education institutions hold "vast amounts of real estate," with the 1996 value of the original purchase price of land and buildings held by the urban core institutions priced at $100 billion (ICIC et. al., 2002).

As the joint study stated, many of the nation's higher education institutions are "located in or near poor urban areas," and "the futures of institutions of higher education are inexorably tied to the health of their communities" (ICIC et. al., 2002). To the extent that university endowments contribute to the revitalization and continued economic vitality of the urban infill communities by investing in prudent, market return real estate equity projects that meet the needs of the surrounding community, there will be the opportunity for an alignment of interests between and shared economic benefits for the community

and the endowment funds.

This thesis is organized into seven chapters. After this introduction, the second chapter presents a case for pension plan and university endowment equity investment in brownfields in urban core locations. The third chapter reviews historical barriers to such investment, and includes a discussion of issues that are particular to pension plan and university endowment sponsors. The fourth chapter discusses recent trends in institutional investment in urban brownfields. The fifth chapter presents the case study methodology and the following chapter presents the case studies. The seventh chapter is an analysis of the case studies to ascertain how historical barriers to institutional investment in brownfields in urban core locations were managed as well as the expected economic benefits of those investments. The final chapter concludes by reflecting on what the implications may be for communities of color and opportunities to engage institutional capital for projects that benefit the community and the equity investor.

## Chapter II: The Case for Pension Plan and University Endowment Investment in Brownfields in Urban Core Locations in Major Metropolitan Areas

Urban brownfields opportunities can represent an attractive investment for pension plans and university endowments. Urban brownfields can offer the traditional benefits of real estate equity investment, such as current income and appreciation returns, inflation hedging, and asset and liability matching. In addition, urban brownfields represent the kind of higher risk-adjusted return opportunities, those that involve the development or "transformation" of a property, that are well suited for investors like pension plans and endowments due to their portfolio diversification goals and investment time frame (Lindahl, 2002).

Demographic and investment trends that dominated the real estate market over the last thirty years appear to have resulted in market inefficiencies, in terms of acquisition pricing and institutional capital flow, in particular communities and locations in urban core locations. The population growth and improved economic conditions of many urban core communities over the last ten years have resulted in pent-up demand for retail and housing uses. While market norms for environmental tolerance amongst institutional investors have changed significantly over the last ten to fifteen years in response to changes in the regulatory framework, improvements in remediation technology, and increases in the availability and pricing of environmental insurance products, there is still limited institutional competition for brownfield redevelopment projects in the urban core of major U.S. cities.

### Underserved Markets in Urban Core Communities

Institutional capital contributed to the commercial and residential growth of the nation's suburbs through the 1990s. At the same time, institutional investors, including the real estate advisory community, continued to "largely overlook" real estate equity projects in urban infill locations despite the existence of "attractive investment opportunities" (Gordon, 2002). Demographic changes in the 1970s and environmental policy changes in

the 1980s had a significant influence over real estate development in urban infill communities. It is generally accepted that the nation's brownfields tend to be located in cities within or around the urban core that had historic concentrations of heavy manufacturing and industrial uses (Sheridan, 1996). Between 1970 and 1990, increases in zones of concentrated poverty in central city locations "contributed to a general process of population deconcentration" in America's major metropolitan areas (Jargowsky, 2003). This resulted in "donut cities," where "depopulating and impoverished urban cores" were "surrounded by prosperous and growing suburbs" (Jargowsky, 2003). Institutional capital was channeled towards the growing suburbs and "greenfield" sites at the urban fringe, resulting in a lack of institutional capital available for projects, particularly brownfields, that were located in the urban core.

However, the economic growth of the 1990s resulted in significant demographic changes in the nation's urban core that have meaningful implications for institutional real estate equity investors. The results of the 2000 U.S. Census suggest that communities of the urban core benefited significantly from the economic boom of the 1990s, both in terms of population growth and reductions in areas of concentrated poverty (Jargowsky, 2003). Central cities, which experienced a 21% decline, were major beneficiaries of the 24% overall drop in the number of people living in high-poverty neighborhoods in the nation, with the steepest declines occurring in the Midwest and South regions (Jargowsky, 2003). Over the same decade, "the vast majority of central cities registered population gains," with population growth and immigration increases representing the "biggest contributors to the growth and stability of older central cities" during that time (Lachman and Brett, 2002).

In some cases, the population growth and limited real estate investment that characterized urban communities in infill locations has resulted in underserved markets, where pent-up demand and limited competition could translate into opportunities for higher risk-adjusted returns. As Lachman and Brett (2002) put it, "all central cities– whether growing or declining – must serve the housing, working, shopping, and recreational needs of an increasingly diverse population." While average household income levels for

urban core communities may, at first glance, lead developers to bypass such communities for retail development, the higher density levels associated with urban core neighborhoods can translate into overall purchasing power that is competitive with lower density communities in suburban areas that may have higher average household income levels. The extent to which the needs of the populations in central cities have not been met represents the opportunity for institutional investors to invest in viable real estate projects that can offer market returns.

These types of urban infill projects can also represent attractive real estate investments because they tend to benefit from the positive attributes of major urban centers. "Access to large and diverse labor markets, sophisticated sources of financing, and local governments motivated to act as partners rather than regulators" are attributes that can characterize such urban communities (Platt, 1998). They tend to be well located in terms of access to public transportation and highway access, and well served in terms of access to public infrastructure (Platt, 1998). Since many of the real estate equity investors in urban infill projects are local and regional players, investments in brownfields in urban core locations represent real estate equity opportunities in projects where there is limited institutional competition, despite their location in major metropolitan areas (Gordon, 2002). Due to the environmental remediation component of the projects, combined with negative perceptions of urban core locations, the limited institutional activity in urban brownfields in the urban core of major metropolitan areas may have resulted in market inefficiencies that could translate into substantial opportunities for discounted acquisition pricing and an overall superior risk-adjusted return.

Inflation Hedge

As real estate investments, urban brownfield investments would contribute to the traditional role of real estate as a tool to hedge inflation within the mixed-asset institutional portfolio. The cash flows associated with real estate rents tend to keep pace with inflation, while investment alternatives, such as stocks and bonds, tend to decline in value due to inflation shocks. The inflation shocks experienced during the 1970s and

1980s negatively impacted the returns on stock and bond returns relative to real estate (Black, 1997). The cash flow returns associated with real estate generally kept pace with increases in the overall price level. By the mid-1980s, it had become widely accepted amongst institutional investors that "optimal risk-return performance dictated an investment of 10 percent of total assets in income real estate" (Black, 1997). Although the 10% allocation dropped dramatically in the aftermath of the liquidity crisis of the late 1980s and early 1990s, the inclusion of income-producing real estate equity investment in mixed asset pension plan portfolios had become increasingly common (Winograd, 2001). To the extent that there is positive cash flow associated with a particular brownfield project, it should offer the same inflation hedging function as traditional real estate equity investments.

Asset-Liability Matching

Pension plans face a fiduciary responsibility to seek investments that will enable their portfolios to fund obligations to their beneficiary populations. University and college endowment sponsors face similar minimum return thresholds to enable them to support ongoing programs associated with their respective universities and colleges. The income return component of fixed income and real estate equity investments can offer attractive opportunities to meet those cash flow obligations. However, of the two asset class alternatives, only real estate equity investment offers the opportunity to realize high annual yields and long-term capital appreciation (Lindahl, 2002). To the extent that pension plans and university endowments have beneficiary populations that live in the U.S., their funding liabilities are dollar denominated. From an asset-liability matching standpoint, those plans and endowment funds are well served to have a significant allocation of assets that are located in the same country in which the liabilities are located (AIG, 2001). Urban brownfields enhance the ability of these investors to invest in higher risk adjusted return opportunities that offer a cash flow stream that is denominated in the same currency as that which dominates the country in which many of their beneficiaries live.

Enhance Real Estate Cycle Strategy

The longer investment horizon of pension plan and university endowment funds contributes to their ability to respond to changes in market conditions. Since the real estate market is cyclic, the longer investment horizon is a competitive advantage enjoyed by many institutional real estate equity investors relative to other investors that may have stricter timing restraints on their investment activity. Real estate cycles have "pervasive and dynamic impacts on real estate returns, risks, and investment values," which significantly affect the viability of real estate investments (Pyhrr et. al., 1999). A recent study of real estate cycles revealed that for investors that "have multiple capabilities, pursuing different types of involvements in multiple real estate investment markets," "the reality of [real estate] cycles offers the opportunity to have certain parts of their business perform better in certain market conditions than in other market conditions" (Pyhrr et. al., 1999). This would enable those investors to "have the capability to shift their mix and emphasis over time" and "enjoy superior results over those who do not" (Pyhrr et. al., 1999).

In response to movements within the real estate cycle, institutional investors may change their real estate portfolio strategy, such as increasing their emphasis on "buying troubled existing properties, land investment, and development opportunities" as "markets move from very weak (trough of cycle) to strengthening (recovery) to strongest (expansion) levels" (Pyhrr et. al., 1999). Urban brownfields in infill locations should have a place within this framework, amongst other higher risk/higher return investment opportunities. The inclusion of urban brownfields in urban core locations would expand the "universe" of real estate equity investment opportunities as institutional investors seek to implement opportunistic strategies within the domestic market that target projects offering higher risk adjusted returns in response to market conditions.

## Chapter III: Historical Barriers to Institutional Investment in Brownfields

Multiple factors have contributed to the historical lack of institutional investment in brownfields. Liability and financial risks have been particularly influential in deterring "deep pocket" investors such as pension plans and university endowments from investing in brownfields. In addition, there is a relatively longer period necessary to close brownfield transactions and realize expected cash flow returns. For urban brownfield located in older cities, such as those that dot the Northeast and Midwest landscape, there is often a rather complicated zoning approval process that increases the entitlement risk typically associated with a real estate transaction. For institutional investors such as pension plans and university endowments, there is also the newspaper risk associated with a highly publicized environmental scandal. However, recent developments in the brownfield market, whether from an insurance or regulatory perspective, have resulted in dramatic changes that should significantly influence institutional investment decision-making with respect to brownfields.

### Longer Period to Close Transaction & Realize Returns

Brownfields transactions tend to be more complicated on average than typical real estate projects. There is a longer time period associated with closing the deal, which often includes capital outlays to fund overhead expenditures. According to Tom Darden of Cherokee Investment Partners, the average time to close on a typical brownfields transaction is twelve months, but can extend to as long as three years (Darden, 2003). In addition, there is, on average, a longer period before investors realize income returns due to the remediation period associated with brownfields. The remediation period varies based on the extent of contamination and proposed use of the site. While improvements in remediation technology over the last ten years have enhanced the ability to estimate the timing and extent of environmental contamination, brownfield deals continue to tend to be very complex, time-intensive transactions.

Regulatory Process & Entitlement Risk

Traditional real estate development projects entail some degree of entitlement risk. With urban infill projects, the entitlement risk component of a project may be intensified due to the complex approval process of many urban municipalities. Generally, urban infill projects tend to involve the navigation of a more demanding, restrictive, and costly regulatory framework versus projects in newly developing areas (Suchman et al, 1997). Many infill parcels are zoned for uses that are not economically viable, which necessitates the pursuit of approval for rezoning (Suchman et al, 1997). The lack of clear guidance from the federal and state agencies regarding cleanup standards and liability limits during the 1980s and into the 1990s resulted in turning away many would-be developers of urban infill projects that would be economically viable once remediated. Without a municipal commitment to facilitating the redevelopment of urban infill projects, or in cases where the city does not have the resources to do so, the relatively more complicated regulatory process and entitlement risk associated with urban infill, combined with the liability and financial risk components of brownfield redevelopment, led many would-be developers of urban brownfields to "opt out" (Suchman, 2002).

Fortunately, there is evidence that more urban municipalities are adjusting their traditionally more restrictive stance in an effort to help facilitate redevelopment, particularly in urban core communities that have suffered from a lack of private investment. Successful urban infill development often involves a partnership between the city government and the developer. City support can take a range of forms, from financial form, such as enabling the developer to cap environmental exposure, to informational, such as taking an active role in assisting developers with the navigation of the regulatory framework, which can be particularly complex with brownfield projects. Public-private partnerships for brownfield redevelopment can result in an alignment of interests between the community and the developer, such that the community benefits from the potential for the environmental cleanup and redevelopment of an underutilized or abandoned site, while the developer benefits from the potential to earn higher risk-adjusted returns on a real estate investment.

Liability & Financial Risk

The impact of changes in public policy during the 1980s, notably the enactment of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980, resulted in a shift of capital away from investment in real estate that had been or was perceived to be environmentally contaminated. Under CERCLA (also referred to as "Superfund"), any owner or operator of a site where hazardous substances had been released was made liable for the costs of the environmental cleanup (Platt, 1998). In two seminal cases during the 1980s, U.S. v. Chem Dyne (572 F. Supp. 802 805-810 (S.D. Ohio 1983)) and U.S. v. Monsanto (858 F. 2d 160 (4th Circuit 1988)), the law was interpreted "to impose 'joint and several liability'" on owners and operators of environmentally contaminated sites (Platt, 1998). The liability was retroactive, and meant that any owner or operator that was responsible for causing any part of the contamination was liable for the entire cleanup cost, including new owners that may not have contributed to the contamination at all (Platt, 1998). If the owner of a contaminated site was sued by the U.S. Environmental Protection Agency (EPA), the sole recourse of the owner beyond its own pockets would be to sue past owners or users of the site in order to recover their "contribution" to the cleanup costs (Platt, 1998).

The risk of being in the chain of title for environmentally contaminated properties was particularly powerful in motivating "deep pocket" investors like pension plans and university endowments to avoid those types of investments. These investors were unwilling to invest in projects where the risk of loss exceeded the amount of the capital invested. At that time, specialized insurance products such as environmental insurance were of limited availability and cost prohibitive. Indeed, the tools to reasonably estimate the extent of contamination, and the timing and costs associated with remediation, were limited. The aftermath of CERCLA legislation in the 1980s and early 1990s was a tendency towards a "zero tolerance" approach for environmental contamination by many institutional investors in real estate.

Given the risk issues discussed above, the availability of environmental insurance has been a key factor in limiting institutional investment in brownfields. Technological improvements over the last decade as well as the benefit of accumulating experiences associated with brownfields redevelopment resulted in significant improvements in the ability to accurately estimate the time and cost associated with environmental remediation (Bruder, 1999).

"Cost-cap" or "stop-loss" insurance products allow brownfield redevelopers to insure against cleanup costs over and above a predetermined cost estimate plus the deductible (Whitman, 2001). The cost estimate is based on the results of the environmental investigation performed on the property as well as the remediation action plan necessary to meet state environmental standards (Whitman, 2001). The cost cap insurance covers brownfields investors for known environmental contaminants on the property or adjacent properties, as well as ordinary cost overruns associated with the remediation (Leon, 2003). This type of coverage typically sets a maximum exposure for mitigation expense by offering up to 200% of the remediation costs as estimated in the initial remediation plan (Meyer and Lyons, 2000). Cost cap insurance projects are typically acquired for projects with remediation costs expected to exceed about $1.0 million, and tend to be too expensive for smaller remediation budgets (Dragat, 2003).

Pollution legal liability insurance indemnifies the brownfields investor against liability for the preexisting conditions at the site (Busby, 2003). The cost of pollution legal liability policies are typically a small proportion of the overall value of the transaction (Busby, 2003). Broader coverage is also available to cover claims for "ecosystem damage, health problems encountered by neighbors or workers, and loss of property value by nearby owners" (Meyer and Lyons, 2000). The availability of this type of insurance product at competitive pricing levels should go far towards enabling institutional investors to obtain a level of comfort with investing in brownfields that are further along the risk spectrum for environmental contamination, where the timing and extent of remediation is less quantifiable.

Prospective liability and "reopener" coverage offers insurance against future liabilities associated with changes in government regulations concerning environmental cleanup as well as "claims for damage due to contaminants remaining in place during the course of redevelopment" (Meyer and Lyons, 2000). Recent research reveals that the reopener rate in the U.S. is quite low, estimated at 0.1%, which was considered to be a "very modest level of concern" and indicated that reopeners are "a manageable risk in the brownfields arena" (Simons et. al., 2003).

However, the availability and pricing of such products are affected by market conditions. In the early 2000s, the environmental insurance market tightened (Lynott,2003). The tightening is believed to be part of an overall market correction associated with poor underwriting and the rise of cost cap claims (McGovern, 2003). Turnover amongst the environmental insurance carriers included United National, which closed its environmental insurance operation (Lynott, 2003). Environmental insurance policies became "more expensive and harder to get," with the transaction costs for negotiating insurance, particularly for smaller scale brownfield projects, becoming a significant issue for would-be brownfield developers (Meyer, 2003). However, the pollution liability insurance products did not experienced the same cost increases to the same extent as the cost cap insurance products. (McGovern, 2003).

The use of risk-based standards for environmental cleanup has resulted in cleanup thresholds appropriate to the intended redevelopment use for the site, and has been a significant force in reducing environmental cleanup costs overall. These standards have been developed for petroleum contamination as well as chemical contamination (Whitman, 2001). Although risk-based standards may involve a relatively higher cost and longer time frame associated with the more extensive site investigation and risk assessment, their use may result in lower clean-up requirements associated with a particular use (Whitman, 2001). Furthermore, institutional controls, which may include deed notices, deed restrictions, and ground water use restrictions, help to ensure that future owners and users of the site are aware of the potential hazards that may exist (Whitman, 2001). Institutional controls are mechanisms that are intended to limit

"exposure to residual contamination" at projects for which remediation has been performed (McTiernan, 2002).

Changes in the environmental insurance market have dramatically altered the availability of tools to help mitigate the risks involved with brownfields acquisitions. The broader availability and competitive pricing of environmental insurance projects has enabled institutional investors to appropriately mitigate liability and financial risk concerns that had been significant factors in keeping institutional investors out of the brownfields market over the last twenty years. This has positive implications for improvements in the availability of institutional capital for brownfields projects.

Changes in Public Policy

Changes in environmental policy also bode well for increases in institutional activity in brownfield projects. Recent legislation signaled a "less threatening" stance by the federal government towards brownfield redevelopment (Abelson, 2003). As discussed above, the impact of the 1980 CERCLA legislation was particularly powerful in diverting institutional capital away from brownfields investment. An amendment to the legislation in 1986, the "innocent owner" defense, was intended to release real estate investors from liability if "all reasonable inquiry" was performed on the property prior to purchase (Leon, 2003). However, the amendment was "toothless," because the law was too vague regarding the standard for inquiry, such that if undetected contamination was discovered, then "all reasonable inquiry" could be interpreted as not having been performed (Leon, 2003).

In an attempt to implement "smart growth" strategies, many cities and states have begun to focus on ways to restrict the development of farmland and other open spaces (Stann and Airst, 1999). The focus on smart growth has resulted in more attention on how state and city governments can help to facilitate infill development, including urban core brownfields. Many states took action to provide some liability relief to potential brownfields developers during the 1990s. State environmental voluntary cleanup

programs (VCPs) issued closure letters such as no further action (NFA) letters and certificates of completion (COCs) that formally acknowledged the "end of the site remediation regulatory process" but left open the possibility of being "reopened" in certain circumstances (Simons et. al., 2003). Reopeners are also typically appended to Covenant Not to Sue (CNS) documentation, which provide "assurances that, in return for meeting specified standards for cleanup, the state will not sue for further cleanup on the site" (Yount, 1999). The reopening of a site after the completion of the redevelopment could compromise the tenants as well as the equity and debt capital committed to the project (Simons et. al., 2003). The possibility of a project being reopened, as well as the continued risk of enforcement of stringent federal remediation standards and liability risks under federal law (CERCLA) continued to contribute to the perceived liability and financial risk associated with brownfield redevelopment. As of March 2002, the federal EPA had entered into a state memorandum of agreement (SMOA) with 18 states, which offered protection from legal action by the U.S. EPA against a site in those states (Simons et. al., 2003).

The major nod from the federal government towards brownfield redevelopment came in 2001, when Congress passed the Small Business Liability Relief and Brownfields Revitalization Act. In contrast to the effects of the 1986 CERCLA amendment, the new law required that the EPA establish standards for "appropriate inquiry" that would be sufficient to obtain liability relief (Bourdeau, 2002). Until those new standards are established, the Phase I assessment procedures as established by the American Society for Testing and Materials (ASTM) is the recognized standard (Bourdeau, 2002). Under the new law, even if the brownfields investor satisfies the conditions necessary for relief under the "innocent owner" liability protection during the acquisition phase, there may be continuing obligations required to be undertaken in order to preserve the protection" (Keyes, 2002). The ongoing obligations may include "complying with information requests, providing access to persons authorized to undertake cleanup" and compliance with land use restrictions and institutional controls (Keyes, 2002).

The new law signaled a change in the approach of the federal government towards new buyers and potential redevelopers of brownfields that had not contributed to the environmental contamination of the sites being acquired. The 2001 change in environmental law offers substantial relief from the liability risks that characterized brownfield investment in the 1980s and 1990s. The new federal policy and implementation of institutional controls and risk-based remediation at the state level, in conjunction with dramatically improved technology and expertise available to estimating the timing and extent of remediation associated with a given brownfield project, as well as the availability of competitively priced environmental insurance policies all bode well for increased equity participation in brownfields investments by institutional investors.

Newspaper Risk

In addition to the risk factors discussed above, pension plans and university endowments face "newspaper" or "stigma" risk, which here refers to the risk that a pension plan or university endowment has of being associated with a highly publicized scandal associated with a particular investment. An interview with James Gasperoni of Princeton University (2003) indicated that this was an issue that pension plans and university endowments considered a meaningful concern. While there have been some efforts to quantify newspaper risk in terms of a particular basis point spread, the results were inconclusive (Gasperoni, 2003).

However, it is generally accepted that pension plans and university endowments as a group are influential players in the capital markets, and large institutions have sometimes taken a leadership role in the investment community. For example, a March 2003 CalPERS press release revealed that a cross-section of institutional investors (including state treasurers and labor unions) with $3 billion in total investment assets, joined in a bi-coastal news conference and took out a full-page ad in the Wall Street Journal the previous month (CalPERS, 2003). In the news conference and Wall Street Journal ad, the investors called on expatriate U.S. corporations to "Come Home to America" from their offshore tax havens (CalPERS, 2003). With such a powerful position within the

investment community and a fiduciary commitment to their fund beneficiaries, pension plan and university endowment leadership would seriously consider the newspaper risk component of any investment and expect to be compensated for that additional risk. An interview with a CEO of a previously active brownfields development group that was quoted in an industry newsletter revealed that "the perception of boards being tagged to a contaminated site is still problematic" for obtaining institutional capital for brownfields projects (Gerst, 2002). The CEO said that "there is still the perception that one day their names will appear on the front page of the paper talking about a contaminated site" (Gerst, 2002).

Institutional Capital Flows Towards Higher-Risk Real Estate Investments Are Cyclical[1]

According to the National Council of Real Estate Investment Fiduciaries (NCREIF) Portfolio Management Committee Investment Styles Definitions draft White Paper (Baczewski et al, 2003), three real estate investment strategies dominate institutional investment: core, value-added, and opportunistic. Core investments are characterized by stable current income and low to moderate level of risk. According to the NCREIF Styles White Paper (2003), the income component of the total return will dominate the appreciation component, and target total returns are typically in the range of 10% to 12% per year and expected to reflect the same trends as the NCREIF Property Index.

In contrast, the appreciation component typically dominates the total return for value-added investments, although the income return is generally expected to contribute to the total return. NCREIF classifies value-added properties as typically having a moderate level of risk and higher expected returns (about a 200 basis point estimated spread) relative to core investments, with target returns generally in the 12% to 15% range. The value added in these types of real estate investments is frequently from an operational standpoint, involving the correction of a deficiency in leasing, development, management, or capitalization.

NCREIF characterizes opportunistic real estate investments as having a high level of risk relative to core properties, with a tendency towards a total return that is substantially driven by the appreciation component of the return. The target total return generally exceeds 15% in order to compensate for the higher risk associated with the investment.

Investors would demand compensation for the higher risk associated with brownfields investment. Thus, brownfields must offer a higher return to compensate for the additional risk undertaken in the investment. Generally, investors seek returns in excess of about 20% for brownfields investments.

The location of brownfields investments along the target total return spectrum may influence the types of pension funds and university or college endowments that invest in them. Institutional investors select portfolio strategies "based on the underlying return requirements of the assets they manage." (Fickes, 2000). Older pension funds or university endowments with substantial retiree obligations may prefer to pursue a core real estate investment strategy in order to mitigate the risk of capital depreciation and to generate the current income returns necessary to fund the beneficiary obligations (Fickes, 2000). On the other hand, smaller pension funds or university endowments may tend to pursue the higher returns associated with value-added and opportunistic strategies (Fickes, 2000).

Changes in the economy and the value of individual portfolios also influence the particular strategies that pension plan or university endowment sponsors may pursue. For instance, by the year 2000, in response to changes in the capital markets, many institutional investors had scaled back their return targets for real estate, and were tilting more towards core and value-added real estate investment strategies than opportunistic ones (Fickes, 2000). This was a marked change compared to the "speculative excess characteristic" of the market during the maturation period of the late 1980s and early

[1] The information provided in this section regarding institutional investment strategies and associated return expectations was derived from the NCREIF Portfolio Management Committee Investment Styles

1990s (Fickes, 2000). Due to the change in market conditions, by the year 2000, smaller pension funds became a larger proportion of the U.S. pension funds focusing on opportunistic real estate investments (Fickes, 2000).

However, the relatively illiquid nature of direct investment in real estate, which increases during growth phases of the real estate cycle and tends to fall during the real estate market downturns) limits its accessibility to smaller pension funds and institutions (Lindahl, 2002). The proliferation of real estate opportunity funds as well as the securitization of real estate (such as REITs) increased the ability of smaller pension plans and endowments to invest in opportunistic real estate (Fickes, 2000). Yet, the relatively constrained options for investment in real estate faced by smaller pension funds and endowments should significantly impact the extent of institutional capital flows towards brownfields redevelopment during periods of market maturation.

When there are larger institutional investors focused on opportunistic real estate strategies, there will tend to be more capital available for those types investment, and potentially through a myriad of investment vehicles, particularly direct investment through joint venture partnerships. While there is limited historical data on the extent of institutional opportunistic real estate investment, David Gelter of the MIT Center for Real Estate indicates that institutional interest in opportunistic real estate investing increases when there is the perception of "value" that can be achieved due to "bargain" pricing (Geltner, 2003). As changes in real estate pricing tend to be cyclical, this significantly influences changes in access to institutional capital for brownfield developers.

Exit Strategy

As discussed above, liquidity concerns have had a significant influence on institutional investment in the real estate asset class as a whole. Investment in real estate is generally perceived to be less liquid relative to alternative investments such as stocks and bonds. This has been a major factor in the under-weighting of real estate within pension plan and

university endowment portfolios. Since the 1980s, brownfields were perceived as highly illiquid due to the liability risks associated with acquisition of a contaminated property under federal legislation passed and interpreted during the 1980s and 1990s as well as the limited financing available for undertaking the acquisition of a contaminated property. The impact of these forces often translated into reduced market values for contaminated real estate that was separate from the negative impact to market value associated with the direct remediation costs that reduced the cash flows derived from the property (Jackson, 2001).

However, recent research indicates that there are significant changes in the pricing and availability of financing for environmentally contaminated commercial and industrial properties as the remediation process is undertaken for the property. Jackson's (2001) study of the risk perceptions of commercial and industrial lenders with regard to environmental contamination addressed whether perceived risks varied with a property's remediation or cleanup status, and whether market conditions had an "intervening effect" on environmental risk. The formal survey research undertaken for the study, using a statistically representative national sample of commercial and industrial mortgage lenders, quantified the precise changes in lender risk perceptions during the remediation cycle, and yielded benchmark risk measurements of the probability of being able to obtain financing for particular property types and environmental conditions that were included in the study. The survey specifically focused on source site groundwater contamination, which generally involved more complicated methods to estimate the extent of contamination.

Jackson found that, assuming a creditworthy hypothetical borrower, for commercial and industrial properties for which no cleanup had been performed and no approved remediation plan was in place, only 6.8% of the lenders would provide a mortgage loan on the property. During the cleanup phase, most of the lenders (54.3%) would provide a mortgage loan on the property with adjustments to the terms and conditions of the loan, such as a decrease in the loan-to-value ratio. Using multiple methods, the changes in lender risk perceptions based on the remediation status were found to be statistically

significant at the .001 level, proving the hypothesis that remediation status does affect lender perceptions of risk.

Changes in lender perceptions of risk associated with contaminated properties based on the remediation status of the property has meaningful implications for institutional investors pursuing urban brownfield investments. The study suggests that the availability of financing for urban brownfields is not static; the incidence of contamination does not drastically reduce the pool of financing sources for brownfields projects indefinitely. Rather, the availability of financing for the institutional investor should increase significantly as the remediation is performed for the property. In addition, once the remediation is complete, the availability of financing for a creditworthy borrower should not have a negative impact (based on prior contamination) on the pool of buyers for the property.

In the same study, Jackson also found that lender risk perceptions also changed based on real estate cycle trends. The lender survey quantified the effects of market conditions on risk perceptions through a series of scenarios. Respondents indicated whether their risk perceptions of a contaminated property would rise, fall, or be indifferent to whether the general market demand was strong or weak, and whether the remediation had not yet begun, was underway, or had been completed. Jackson's study revealed that the risk reduction associated with a strong market was statistically significant at the .001 level in all but one scenario combination, that in which remediation had not yet begun. The increase in lender risk perceptions associated with a weak market was statistically significant in all three phases of the remediation cycle (before, during, and after cleanup).

These results also have important implications for pension plans and university endowments pursing investments in brownfields. The longer investment horizon of pension plan and university endowment sponsors is especially suited to taking advantage of the impact of changes in market conditions to the marketability of the property. The longer-term investment horizon enables pension plans and university endowments to buy and sell property according to market conditions (Lindahl, 2002). Pension plans and

university endowments are in the position to ride out weak periods in the market and take advantage of upswings in the real estate cycle. The confluence of strategically timed dispositions of urban brownfield properties and particular phases in the real estate cycle could result in enhanced pricing associated with greater financing opportunities available for the new buyer.

In another study, Jackson (2002) analyzed the impact of remediation status on the pricing at which industrial properties traded in the real estate market. The environmental risk factors reflected the investment and lending risk related to "uncertainties concerning cleanup requirements, liabilities, and other factors." The study found that industrial properties that had not undergone remediation traded at prices that were estimated at 30% less than properties that were not contaminated. However, once the remediation was completed, Jackson found that the pricing for properties that had undergone remediation were "indistinguishable" from comparable properties that had experienced no contamination (Jackson, 2002). Jackson noted the "price reduction and rebound" provided an attractive investment opportunity for venture capital and opportunity funds (Jackson, 2002).

Under CERCLA legislation and subsequent interpretations of the law during the 1990s, the severely limited pool of buyers for contaminated properties was a strong deterrent to institutional investment in brownfields. The relative ease of transactions involving greenfields, and the growth of the suburban residential and office markets during the early to mid- 1990s contributed to the continued focus of institutional investment away from urban infill markets. The preponderance of brownfield sites within the stock of available real estate in urban core markets further exacerbated the difficulty of drawing institutional capital. However, institutional concerns regarding the ability to exit a brownfield investment and realize an appreciation gain appropriate to the level of risk involved in the investment have been aptly addressed by Jackson's studies regarding environmental risk perceptions and pricing.

## Investment Scale of Brownfield Projects

Urban infill transactions have traditionally fallen below the minimum investment size threshold for institution investment. According to Shekar Narasimhan of Prudential Real Estate Fixed Income Investors, urban infill transactions "tend to be smaller and more complex, and the development entities tend to be locally based and narrowly focused," contributing to the difficulty of finding large transaction opportunities (Gordon, 2002). The majority of brownfield sites, such as gas station and dry cleaner cleanups, can be addressed through regional or local capital resources in conjunction with community development organizations (Gerst, 2002). However, the proportion of brownfield sites that are estimated to be of institutional size represents a substantial pool of real estate projects. Tom Darden of Cherokee Investment Partners, a leader in real estate opportunity funds focused on brownfields redevelopment, estimated the proportion of brownfield sites appropriate for institutional investment at 10%, or 40,000 to 60,000 sites located in the domestic market (Gerst, 2002).

## Infrastructure of Pension Plans and University Endowments

The complexity of urban brownfield transactions is a significant factor in contributing to the need for adequate access to real estate expertise in order to successfully and prudently pursue such opportunities. Pension funds and university endowments that have formal in-house real estate research capability will tend to have greater access to real estate expertise (Ziering & Worzala, 1997). A survey of institutional investor preferences for real estate research revealed that of the 73% of the funds that were over $5 billion in size, 77% had "dedicated in house real estate professionals and 27% employ[ed] in-house real estate research staff" (Ziering & Worzala, 1997). Of the funds that participated in the survey that were under $5 billion in size, none of the medium-size funds had any formal in-house real estate research capacity and only 2% of the smallest funds did (Ziering & Worzala, 1997).

In reference to recent institutional focus on urban infill investments, Mike McCook, senior investment officer for CalPERS was quoted in an article of the Institutional Real Estate Letter on the issue of the small size of many such projects, which translates into the need for "a lot of these projects to generate a sufficient portfolio" (Gordon, 2002). He stated that CalPERS, the largest pension plan in the nation, had the "luxury of accumulating smaller and more focused portfolios" for its noncore strategy (Gordon, 2002). While for funds with limited real estate staff, "increasing the number and complexity of their real estate holdings may be problematic" (Gordon, 2002). Even if relatively smaller funds have access to in-house real estate research expertise, the complexity and time-intensive nature of urban infill investments, particularly brownfield investments, may lead to the conclusion that "a well-diversified core portfolio strategy may be more attractive to smaller plan sponsors simply because they can keep larger amounts of capital in play" (Gordon, 2002).

However, the demographic changes revealed in the 2000 U.S. Census suggest that larger institutional investors that are in a position to fund smaller, more focused real estate investment strategies may be best positioned to meet market demand in the longer term. According to a report by Lend Lease, "A Nation of Niches," the 2000 Census revealed "that more and more real estate demand will be specialized and best served by niche players" (Lachman and Brett, 2002). The contrast between the large assets that have historically characterized institutional equity investment in real estate and the small scale that characterizes niche opportunities may trigger a response in the real estate advisory community towards more targeted, smaller commingled funds as well as an increasing focus on equity joint venture partnerships (Lachman and Brett, 2002).

Market Expertise

For urban brownfield projects in infill markets that were significantly comprised of low-income households and people of color, there may have been the perception within the institutional community that there was insufficient disposable income to warrant

investment and that unfamiliarity with the demographic profile of diverse communities would lead to a mismatch in real estate use or leasing. One challenge cited in an industry newsletter regarding pension plan capital and urban infill investment was the "lack of qualified or 'underwritable' sponsors or joint-venture partners" (Gordon, 2002). The growth in the number of real estate entrepreneurial firms that have targeted urban infill markets and communities of color has contributed to the increase in the pipeline of professionals that have demonstrated expertise in these markets. Examples of such niche real estate developers include MacFarlane Partners and the Canyon-Johnson Fund, both of which target urban infill markets and target the institutional capital base for funding.

## Chapter IV: Recent Trends in Institutional Investment in Urban Brownfields

Institutional investment in the real estate equity market changes over time in response to fluctuations in capital market conditions. Reliable data on the number of brownfields projects that have been undertaken across the nation is unavailable. Thus, it is difficult to estimate the number of urban brownfields projects that have been funded through institutional capital. However, recent trends in pension fund commitments and indications of market norms for environmental risk tolerance based on survey evidence provide an indication of the extent and structure of institutional activity in brownfields redevelopment.

### Changes in Environmental Risk Tolerance Amongst Pension Plans[2]

As discussed above, many institutional investors adopted a zero-tolerance policy with regard to environmental risk in the aftermath of the CERCLA legislation and legal interpretations of the 1980s. However, the results of a recent survey suggest that there has been a marked change in market norms of institutional tolerance for environmental risk in recent years. The staff of one of the nation's larger pension plans, in conjunction with Pension Consulting Alliance, conducted a survey of eleven large institutional investment managers to "determine market norms" for environmental risk tolerance amongst their pension plan clientele. Investment managers included in the survey covered a broad range of real estate equity investment strategies and investment structures. Core, value-added, and opportunistic investment strategies were represented, as well as separate account and commingled fund investment vehicles. With over $63 billion in aggregate net assets (excluding leverage) of real estate pension plan capital under the management of the survey respondents, the survey group was considered representative of the institutional real estate market. According to an annual report prepared by Lend Lease Real Estate Investments and PricewaterhouseCoopers LLP, as of September of 2002, pension funds owned 36.9% ($148.7 billion) of the $402.8 billion real estate equities market, about a

[2] Information for this section was derived from a July 2003 interview with Michael DiRe of the California State Teachers' Retirement System and a hardcopy internal memo on the survey results.

3% increase over the previous year's share (Fickes, 2003).

Based on the recommendations of an advisory firm that is well known in acquisition of brownfield properties, the Pension Consulting Alliance developed an environmental risk scale to analyze institutional tolerance for varying levels of environmental risk associated with a particular real estate equity investment. Components of environmental risk included extent and type of environmental concern (including impact to adjacent properties), degree to which the timing and cost of remediation are quantifiable, state and federal agency signoff, availability of environmental insurance, and indemnification requirements. Survey respondents were asked to indicate the environmental risk level their pension fund clientele would be willing to accept.

The environmental risk scale ranged from 0 to 10 based on Phase I and II Site Assessments, with 0 representing no recognizable environmental condition (i.e., new project on farmland) and 9-10 representing a major environmental condition (i.e., Superfund site). The 1-2 risk range represented a site suspected of environmental contamination, with readily quantifiable environmental concern that is limited to the site. The seller would perform any remediation prior to site acquisition. Non-conditional No Further Actions (NFA) letter and No Further Remediation (NFR) documentation would be required prior to acquisition, as well as environmental insurance and indemnification.

The 3-4 risk range represented sites in which the site assessments yield the possibility or probability of an environmental condition that is easily quantifiable and limited to the site. In this range, remediation may occur after acquisition with a fixed price remediation contract in hand, and NFA and NFR documentation preferred but not required prior to the transaction close.

The 5-6 risk range represented sites with a probable or known environmental condition that is determinable but may have impacted adjacent sites. Timing and cost of the remediation is largely quantifiable, and may be performed after the transaction close. The NFA and NFR documentation is preferred but not required prior to acquisition, but may

include conditions for ongoing or future monitoring. Environmental insurance is required while indemnification is preferred but not required for that risk range.

The 7-8 risk range represented sites with a known environmental condition, where the extent and type of environmental concern is less determinable and may have impacted adjacent properties. The timing and cost of the remediation is less predictable, and may surpass or approach the intended investment hold period. The NFA/NFR documentation is the same as it is for the 5-6 risk range, as is the indemnification requirement. Environmental insurance for sites in the 7-8 risk range may be unavailable.

The results of the survey indicated that most pension funds are willing to tolerate some level of environmental risk in their real estate portfolios. While no pension plan clients were willing to tolerate the risk associated with environmental conditions in the 9-10 range, the vast majority of survey respondents (about 90%) indicated that their pension plan clientele would tolerate risk in the 1-6 risk levels. The zero-tolerance level represented 5% of pension fund clientele, 1-2 represented 27.8%, 3-4 represented 29.2%, 5-6 represented 33.2%, and 7-8 represented 5.0%.

The advent of risk mitigation tools such as environmental insurance and NFR and NFA documentation has addressed some of the major issues that have historically limited institutional investment in brownfields. These tools have substantially expanded the comfort level that an institutional investor could achieve when evaluating a brownfield transaction, thereby enabling them to pursue higher risk-adjusted return opportunities in markets and locations that may have been overlooked before.

Trends in Pension Fund Commitments

Pension fund commitments represent the investment goals of particular funds and can be indicative of broader trends in institutional real estate strategies and pending capital flows into the real estate market. The allocations in the year 2002 pension fund commitments highlight the growing awareness of brownfields investment opportunities that fit the

pension fund investment framework. In 2002, pension funds committed $4.4 billion to the real estate sector, with the Washington State Investment Board committing a $250 million mandate for a brownfields strategy with Cherokee Investment Partners (Real Estate Finance and Investment (REFI), 2003). That year, opportunistic searches accounted for 25% of all completed searches (REFI, 2003). Cherokee Investment Partners is one of the leaders in opportunity funds that focus exclusively on brownfields and use institutional capital (in part) to do so. Fully 80 percent to the capital for the Cherokee fund is from tax-exempt sources, with such large pension plans as the Washington State Investment Board participating (Gerst, 2002). Recent trends in pension fund commitments also indicate the magnitude of the growing investment capital flows towards urban infill projects, which tend to involve environmental remediation. "Urban renewal" mandates accounted for 19% ($830 million) of pension fund commitments in 2001 (REFI, 2002). It is likely that the brownfield and urban renewal categories alone underestimate the number and scale of institutional investments in urban brownfields, as some funds that are classified as "opportunistic" may include urban brownfield projects as part of the full range of their target investments.

According to the National Brownfield Association, in recent years, non-specialty real estate funds have increasingly begun to "test the brownfield waters," which has contributed to the normalization of brownfields within the overall real estate equity investment universe (Brownfield News, 2002). This will continue to significantly contribute to more brownfields redevelopment activity funded through institutional investment funds (Brownfield News, 2002).

Institutional Investment in Brownfields-Focused Joint Ventures

During the mid- to late-1990s, several joint ventures formed to exclusively pursue brownfields investments. These partnerships were often formed between engineering firms, which had expertise in environmental remediation, and major real estate firms that had access to capital. Some of the ventures drew upon institutional capital to fund the deals (Cassidy, 2003). The joint venture partners perceived "a rare opportunity to profit

from the market's aversion" to brownfields (Carlson, 2001). However, many of them underestimated the complexity of the brownfields deals, and expected to be able to produce sufficient transaction volume from the "low hanging fruit" (Cassidy, 2003). Some believed that the profit made on the environmental costs would provide the financing for the project (Theriot, 2001). However, the significant drop in cleanup costs, primarily due to the adoption of risk-based standards, as well as increases in property prices compromised the viability of that strategy (Theriot, 2001). Furthermore, many of the ventures failed simply because they chose projects in which the "real estate fundamentals were absent" – environmental cleanup was not going to transform a poor real estate deal into a good one (Cassidy, 2003). According to Carlson Environmental, Inc., many of those joint ventures did not "last beyond an initial flurry of activity," despite relatively large sums of capital behind the ventures (Carlson, 2001). Examples of such ventures included the Dames & Moore/Brookhill joint venture and the CB Richard Ellis/ENSR alliance (Carlson, 2001). However, by 2001, the retreat of many of the specialty ventures from the brownfield market coincided with an overall increase in the number of brownfield transactions, with an increasing share of activity driven by REIT and traditional real estate developers.

REITs

Institutional investors may be indirectly investing in brownfields by investing in REITs that pursue brownfield investment opportunities that fit their overall development strategy. REITs tend to specialize in a particular property type. Thus, as many brownfields were the result of contamination due to past industrial and commercial uses on the site, industrial REITs tend to have relatively more experience closing brownfields deals. For example, while the industrial REIT AMB does not focus exclusively on brownfields, the firm had achieved a significant level of brownfield savvy such that, during the 1990s, the company joined with AIG, the leading environmental insurer, to start a fund focusing exclusively on brownfields for retail use (Martin Lamb, 2003). CenterPoint Properties is another example of a REIT that focuses on industrial real estate development and has roughly a third of its development portfolio in urban brownfields

(Leon, 2003). Average total returns since its initial public offering ten years ago are estimated at 21% (Leon, 2003).

Retail and residential REITs have also pursued urban brownfield opportunities. General Growth Properties (GGP) achieved a degree of brownfields remediation savvy through their shopping center investments. GGP has received significant attention from the Urban Land Institute for its 1998 Brass Mill shopping center in Waterford, Connecticut. The Brass Mill Center redevelopment involved the remediation and redevelopment of an urban industrial site (Simons and Leccese, 1998). The Urban Land Institute also recognized the brownfield redevelopment work of AvalonBay (formerly Avalon Properties), a residential REIT that developed the Avalon Cove project on a former Conrail rail-yard in Jersey City, New Jersey (ULI, 2003). Avalon Cove is a waterfront mid-rise housing development in an ethnically diverse community that benefits from its close proximity and good transportation network with Manhattan.

Opportunity Funds

Real estate opportunity funds emerged in the early 1990s. Their emergence was in reaction to "global real estate market crash in the late 1980s and early '90s," which, in conjunction with changes in regulatory and tax policy, caused a withdrawal of "important capital sources" from the real estate industry (Connor and Liang, 2003). The capital flight associated with the collapse of the savings and loan industry further weakened the domestic real estate market (Connor and Liang, 2003). One of the few sources of private investment capital came in the form of opportunity funds, which emerged to take advantage of the "massive liquidations of real estate holdings by financial institutions and other distressed sellers" (Connor and Liang, 2003). When the real estate market was down, the number of these types of funds was high (Connor and Liang, 2003). However, as the market began to recover, there were fewer domestic projects that offered the opportunistic returns that they were looking for, and many of the funds began to "migrate down the risk/return spectrum to take advantage of value-added opportunities" (Connor and Liang, 2003).

In their search for investment opportunities that would offer opportunistic returns, many opportunity funds have become increasingly involved in projects that entail environmental remediation. As discussed above, due to the tendency towards deal complexity and the necessary remediation period, brownfields tend to require a relatively longer time period to close the transaction as well as a relatively longer period to realize returns versus core real estate investments. In this regard, the increasing role of real estate opportunity funds in brownfields redevelopment is a positive sign. As Thomas Saylak of Blackstone Real Estate Advisors indicated in an interview for the National Real Estate Investor, opportunistic funds tend to have a "higher tolerance for problems in a deal" and "assets with eccentric cash flow patterns" (Frantz, 1999).

Pension fund allocations to opportunity funds vary according to market conditions. In 1998, opportunity funds represented approximately 26%, or 23 of the 87, of pension fund mandates (REFI, 1999). By 2000, opportunity funds accounted for 6 of the 93 searches (REFI, 2001). The "tepid interest" continued through 2001, then rose to account for 25% of completed searches in 2002, reflecting perceptions of weakness in the real estate market and interest in taking advantage of "opportunistic plays" (REFI, 2002).

Equity Joint Ventures

Equity joint ventures can offer institutional investors a way "to pursue a sustained and focused strategy with talented and seasoned organizations," and can be a viable alternative to opportunity funds (Steinfeld et. al., 2002). Joint ventures with entrepreneurial private operators enable pension plans and university endowments to deploy "larger amounts of capital with high-quality partners under favorable terms" (Rosen and Anderson, 1999). With regard to urban real estate equity investment, some of the larger pension funds have taken the lead in committing capital to pursue niche opportunities in order to generate higher risk-adjusted returns (Gordon, 2002). According to an industry newsletter, these institutional investment leaders include CalPERS, California State Teachers' Retirement System (CalSTRS), AFL-CIO Housing Investment

Trust, the Methodist Church, Los Angeles county Employees Retirement Association, New York City Retirement Systems, and New York State Teachers' Retirement System and the New York State Common Fund (Gordon, 2002). According to the article, many of these institutions are drawn to the opportunities to capitalize on the mismatch between supply and demand in urban infill markets. CalPERS, a prominent and powerful pension plan, recently launched a strategic approach to urban infill investment throughout the state of California. Seven different equity initiatives were launched, resulting in investment strategies that address the full range of infill investment opportunities in the California market, including office, industrial, residential, retail, and mixed-use projects (Mattson-Teig, 2002).

Historically, institutional investors overlooked many real estate opportunities in urban infill markets, particularly those in the urban core. Issues such as the perception of a substantially limited exit strategy associated with urban infill investments, lack of expertise in appropriately analyzing the demographics and meeting the demand profiles of ethnically and racially diverse communities, and the complexity of navigating the approval process of established urban municipalities were exacerbated by environmental legislation that targeted "deep pocket" real estate investors in the chain of title for contaminated sites. As the use and availability of environmental tools to mitigate risk have become more widely available at competitive pricing levels, and capital market conditions have resulted in a renewed focus on real estate as an asset class and opportunities to generate value by targeting underserved markets, the flow of institutional capital towards urban brownfields in infill communities through equity joint venture investment vehicles has increased.

Private Equity in Real Estate Firms

Increasing acceptance amongst institutional investors regarding private equity investments, combined with the competitive pressures within the domestic real estate market, have fueled the, admittedly limited, institutional interest in real estate private equity as an investment vehicle (Conner and Liang, 2003). Private equity investment

entails taking an equity stake at the corporate entity level, typically a controlling interest, to fund "the creation and expansion of companies with new and innovative ideas" ((Falzon et. al., 2002 and Conner and Liang, 2003). Real estate private equity offers better access to real estate expertise and an enhanced alignment of interests "between investors and the management of the entity through co-investment capital and entity-level, performance-based compensation structures" (Falzon et. al., 2002). By taking an equity stake at the entity level, investors are able to increase and broaden their participation at the "value creation" stage, often the state during which the property is developed or redeveloped, which can translate into opportunities for higher returns (Falzon et. al., 2002).

As discussed above, the real estate market is cyclical and investors with a longer investment horizon are well positioned to take advantage of cyclical opportunities that can produce superior returns. The private equity investment structure can enhance an institutional investor's ability to do so. The private equity structure offers the opportunity to take an equity interest in a real estate company that has a niche focus in which the clearly "defined scope and strategy helps identify and capitalize on cyclical opportunities in a particular market or location" (Falzon et. al., 2002). Unlike the equity joint venture structure, the private equity structure offers "proprietary access to the entity's transaction pipeline" (Falzon et. al., 2002). As institutional investors, including pension plans and university endowments, increasingly use the private equity investment structure to gain exposure to higher risk-adjusted return opportunities, niche firms that focus on opportunities in urban markets that are burdened with environmentally contaminated sites will have better access to institutional capital.

An example of how this can contribute to institutional activity in brownfield redevelopment in urban core communities is the private equity transaction involving CalPERS and MacFarlane Partners. In 1999, in conjunction with raising the CalPERS stake in the California Urban Investment Partners joint venture with MacFarlane Partners, the pension fund also took a 10% equity ownership position in MacFarlane Urban Retail Company, "one of the leading minority- owned real estate investment firms in the nation"

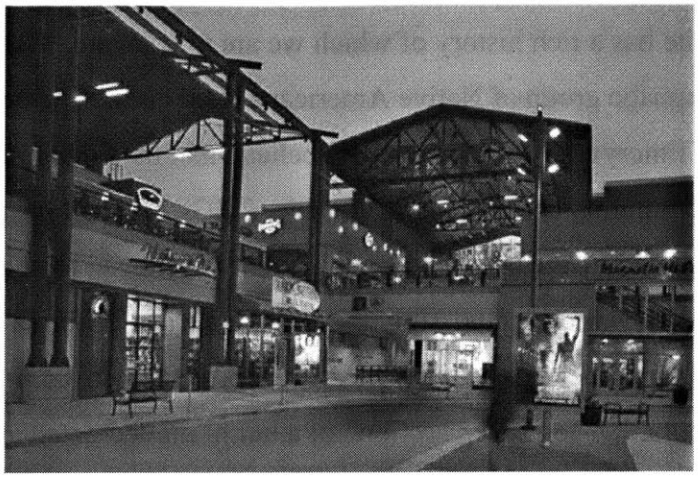
(CalPERS, 1999). MacFarlane Urban Retail Company focuses on retail opportunities in urban cores and transit corridors, particularly those with significant minority populations (MacFarlane Partners). The equity stake entitled CalPERS the "first right to act as the primary investor in all new MacFarlane urban business opportunities" (CalPERS, 1999). Given the manufacturing and commercial uses that dominated the early development of many urban core communities, the transaction enhanced CalPERS's exposure to higher yielding real estate opportunities that are likely to involve brownfield sites, such as the Bay Street project included as a case study in this thesis.

## Chapter V: Case Study Methodology

Three case studies are included in this paper for the purpose of highlighting examples of successful urban brownfield redevelopment projects funded in part through institutional capital. This thesis was particularly time constrained, about three months, thus there were limitations on the scope and availability of information from primary sources. The case studies were selected based on affirmative responses from major firms that have been active in the brownfields market and responded to my inquiries regarding the use of their projects for case studies. In addition, the focus of this thesis on urban brownfields, and the implications of institutionally funded brownfield redevelopment in urban communities of color, further limited the case studies included herein to those that were located in ethnically diverse communities.

The case studies included in this paper are therefore not representative of the scale or structure of institutional investment in urban brownfield projects in infill locations, nor are they representative of the range of environmental issues that may impact such projects. Rather, the primary purpose of the case studies is to illustrate that institutional, particularly pension plan and university endowment, investment in brownfield projects located in urban core areas is taking place and can have meaningful implications for the pace and scale of revitalization efforts in urban communities of color.

## Chapter VI: Case Studies[3]



**Case I: Bay Street - Emeryville, CA[4]**

Project Description

Bay Street is a new, mixed-use development in Emeryville, California. The development is the culmination of the environmental remediation efforts of the city of Emeryville, and the private investment of Madison Marquette, a national retail development firm, CalPERS, the largest pension plan in the nation, and MacFarlane Partners, a leading real estate investment firm focusing on urban, infill projects.

The 400,000 square foot project was built on a former industrial brownfield and Native American shellmound in a predominantly minority neighborhood (MacFarlane Partners). The $400.0 million "urban village" spans three city blocks and, when complete, will include urban streetscape retail with an approximately 80/20 mix of apartments and condominium units (MacFarlane Partners). The retail component has an entertainment focus, pairing national and local retail stores and restaurants, and a 16-screen AMC Theater.

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[3] Unless otherwise noted, information is drawn from interviews and hardcopy materials listed at the end of each case study.

[4] Picture source: http://www.macfarlanepartners.com/projects/baystreet3.html

## Site History

The Bay Street site has a rich history of which we are now aware. "Tribelets" belonging to the Ohlone language group of Native Americans lived on the site beginning around 800 b.c. (City of Emeryville). Archaeologists believe that the Ohlone tribelets used part of the site as a community cemetery (DelVecchio, 2002). Over a long period of time, a shellmound developed on the site, representing what is believed to be the largest shellmound in the Bay Area and possibly the entire state of California (City of Emeryville) The dig associated with the Bay Street project uncovered "2000 sets of remains from a buried, 8-foot-deep section" of a burial mound dated at 2,800 years old (DelVecchio, 2002). The 40-ft high burial mount was leveled by steam shovels in 1924 to clear the way for the construction of a paint factory (DelVecchio, 2002). During the leveling process, an archaeologist recovered the remains of 700 Ohlone (DelVecchio, 2002).

The manufacturing uses that dominated the city of Emeryville from the 1920s to the 1960s caused the extensive environmental contamination that eventually plagued the site. During that time, Sherwin-Williams Company operated a paint manufacturing plant on the site (Greenwich and Hinckle, 2003). Sherwin-Williams sold the site to Elementis Pigments, the iron oxide pigment manufacturer, who operated the site through 2000 (Greenwich and Hinckle, 2003). Neighboring tenants contributed to the toxic wastes that had been released into the soil by Sherwin-Williams and Elementis (Greenwich and Hinckle, 2003). According to the City, the 22-acre site was the location of "a lime and sulfur plant, an insecticide and spray plant, steel storage, a trucking company, a plant producing iron oxide pigments, and storage of used drums and barrels prior to reconditioning" (City of Emeryville, 1999). The City review of the site yielded evidence of "petroleum hydrocarbon compounds, benzene, toluene, ethylbenzene, xylenes, lead, arsenic, oil and grease in the soil and groundwater" (City of Emeryville, 1999).

## Neighborhood Context

In 1927, the future Chief Justice of the United States, Earl Warren (then the Alameda County District Attorney) referred to Emeryville as "the dirtiest little town on the Pacific Coast" (Temple, 2002). The small city, situated on the eastern shore of the San Francisco Bay, is located between Oakland and Berkeley. The city's pro-growth orientation has contributed to its challenges and successes as a small city that has had to grapple with traditionally "big city" problems.

In the 1850s, Emeryville emerged as a major industrial community in the East Bay region. Through World War II, the city functioned as part of the East Bay manufacturing hub and accommodated the plants of such heavy industrial and manufacturing firms as Sherwin-Williams, Chevron, Westinghouse-Electric, Judson Steel, and Del Monte (City of Emeryville). The East Bay region suffered during the post-war decline, with the flight of industry and jobs becoming more pronounced during the 1970s (City of Emeryville). The decline in the manufacturing industry resulted in increases in poverty rates amongst the inner-East Bay communities (Greenwich and Hinckle, 2003). The legacy of the heavy industrial and manufacturing concentration was extensive soil and groundwater contamination, and exacerbated the lack of private investment in those communities. The arduous clean-up standards and, in particular, the liability risks imposed by the environmental regulations enacted during the 1980s drastically stemmed the tide of redevelopment within inner-East Bay communities like Emeryville. This contributed to a trend of blight and abandonment within the city, which translated into a 20% vacancy rate for non-residential property, with 40% underutilized (City of Emeryville).

The fact that most of the city's poor lived in neighborhoods bordered by brownfields illustrated the influence of environmental risks on underserved communities in the urban core (EPA, 2001). Almost half of the city population reporting income levels that would be categorized as low-income, and more than 50% of the city's residents identified as people of color (EPA, 2001). In the aftermath of the flight of heavy industry, an artist community was established within the city of Emeryville, which emerged during the 1970s. Many of the obsolete facilities were converted into artists' studios, which translated into below-market rates for studio space (City of Emeryville, 1999). By 2001,

the resident artist community represented 15 percent of the City's population (Marech, 2001). The "high percentage of resident artists" in Emeryville is a source of "great civic pride" (City of Emeryville, 1999).

Emeryville's prime location near the eastern end of the Bay Bridge contributed to a powerful trend - the cost of remediation for the City's "640 tainted acres" was greatly outpaced by the price of land (Bole, 1997). By the early 1990s, 60% of the City's commercial and industrial land was considered underutilized, with 55% environmentally contaminated (Vitulli, 2002). The City of Emeryville's Redevelopment Agency (ERA) began to explore strategies to remediate and redevelop the contaminated sites that marred the community. The City identified the site of the current Bay Street project in the late 1980s as a prime location for a retail center and the ERA began to assemble parcels for what would become the Bay Street project in 1993 (Greenwich and Hinckle, 2003).

The assembly of the Bay Street site parcels through eminent domain triggered the first of two major lawsuits associated with the land (Greenwich and Hinckle, 2003). The Elementis Pigments parcel was acquired by the City through eminent domain, and at a much lower price than the seller was willing to accept (San Francisco Business Times, 1999). Elementis Pigments sued the City, winning a judgment for a $12.5 million price tag in 1999, fully $6.5 less than what the Bay Street developers would eventually pay for the land (San Francisco Business Times, 1999). The second lawsuit involved the City's attempts to sue the former tenants, Sherwin-Williams and Elementis Pigments, to get remuneration for the costs associated with the remediation of the Bay Street site (Greenwich and Hinckle, 2003).

During the mid-1990s, Emeryville implemented three programs to address the environmental contamination issues that challenged the city. The City developed a system that functioned as a resource for developers and property owners that were navigating the "complex regulatory process" associated with redeveloping brownfields (Temple, 2002). In 1996, Emeryville received a $400,000 brownfields pilot grant from the U.S. EPA to "test its land and compile a complete database of groundwater conditions

and contamination information" (Temple, 2002). The results of the study, released in the late 1990s, revealed that groundwater between 30 feet and 100 feet was "relatively clean," which was critical in resolving a lot of uncertainty that developers had regarding the extent of cleanup, particularly the more complex groundwater component, associated with redeveloping in Emeryville (Temple, 2002). Leveraging the EPA funds, the City created a Groundwater Management Plan (GMP), which was intended to "protect public health, deep groundwater resources, and ecological resources of San Francisco Bay while providing regulatory relief and more cost certainty for property owners and developers" (City of Emeryville). Under the GMP, the City assumed a degree of regulatory authority through an agreement with the regulatory agencies (City of Emeryville). The Memorandum of Understanding (MOU) between the city and state agencies set soil cleanup standards and pre-approved environmental remediation procedures (Vitulli et. al., 2002)

In 1999, the EPA awarded Emeryville a $1 million grant under its Brownfields Cleanup Revolving Loan Fund, which was used to create Capital Incentives for Emeryville's Redevelopment and Remediation (CIERRA). CIERRA is a matching grant program that leveraged federal, state, and local funding to provide low-interest loans for remediation and redevelopment projects (Temple, 2002). The CIERRA program targeted smaller parcels and sites that were located east of the railroad tracks (City of Emeryville).

The aggressive stance by the city of Emeryville to address its environmental challenges resulted in positive changes in the community. As the Bay Area region began to benefit from the strong economic growth of the 1990s, the active steps that the City had taken to address the environmental contamination that plagued the community, and its pro growth stance with regard to developers, positioned the City to diversify and increase the growth of its economy.

Local Market Conditions

The concentration of high-tech firms in the Bay Area contributed to its strong growth as a

region during the mid- to late-1990s. Emeryville, a city that is known as one that "since the 1970s, has never met a construction project it didn't like," continued its accommodating, pro-growth orientation to attract spillover from the booming San Francisco and Berkeley areas. Emeryville is believed to have particularly benefited from the politics of the city of Berkeley. One of the major economic anchors to the city of Emeryville is the Chiron company, which was turned off by Berkeley's refusal repeal an ordinance that gave Berkeley "a proprietary stake in research done" in the company's lab (Levy, 2002). Chiron diverted its search for lab space to Emeryville, and paid one of the biggest landlords in the City to develop its Richard Legoretta-designed campus on Hollis Street (Levy, 2002). Between Chiron and Pixar, a major animation studio, Emeryville draws thousands of office workers each day (Levy, 2002). In addition to those firms, during the late 1990s, Emeryville was able to draw major developers, who built "millions of square feet of office space, three major retail and entertainment centers, and several large-scale dense housing projects" (Greenwich and Hinckle, 2003).

The growth in the Emeryville economy during the 1990s made clear the retail voids within the Emeryville market. The economic decline of the 1970s and 1980s resulted in a dearth of retail offerings for the Emeryville population base and other surrounding South Bay communities. However, due to the City's proactive steps towards redevelopment, by the late 1990s, the approximately 7,100 population of the city of Emeryville would swell to 30,000 during the day (Greenwich and Hinckle, 2003). By 2003, there was over six million square feet of Class A office space within five miles of the Bay Street site (Madison Marquette). Within the primary trade area of the Bay Street project, which entails the Berkeley/Oakland Hills West subsector, there was no regional mall presence and the shopping center square footage per capita was roughly half the national average (Madison Marquette).

As an infill location within the East Bay, the Bay Street site was quite complementary for retail development. The site offers easy access from the Bay Bridge, which connects the East Bay to San Francisco, and visibility from Interstate 80, which boasts daily traffic volume of 260,000 cars (Madison Marquette). The site is located at the convergence of

Interstate 80, I-580, and I-880 as well as California Highway 24 (Madison Marquette). In this way, the Bay Street site was a classic urban brownfield redevelopment opportunity that held the attractiveness of proximity to a major urban center and ready access to public infrastructure, as well as pent-up demand for real estate investment that had not been met due to financial and liability risks associated with environmental remediation and possibly, to a lesser degree, the perceived financial risks of investing in urban core markets.

## Site Remediation

The history of uses on the Bay Street site resulted in significant environmental contamination including pesticides, metals, and organics (Department of Toxic Substances Control (DOTSC), 2002). Past uses included a "drum recycling facility, pigment manufacturer, pesticide repackaging facility and trucking facility" (DOTSC, 2002). The city of Emeryville, specifically its ERA, took responsibility for the predevelopment environmental remediation of the Bay Street site. The ERA obtained a memorandum of understanding (MOU) with the state EPA for brownfield redevelopment based on a city-wide GMP, which was used for the remediation of the Bay Street site (EPA, 2001). The ERA assumed the costs and operation of the remediation of the soil and groundwater contamination. The groundwater contamination included arsenic, pesticides, and hydrocarbon solvents (Greenwich and Hinckle, 2003).

## Financing & Investment[5]

The funding of the $400 million Bay Street redevelopment project involved a partnership between the City of Emeryville, Madison Marquette, MacFarlane Partners, and CalPERS. As stated above, remediation of the property was performed and financed by the City as well as the costs of the legal expenses associated with pursuing the former owners of the site for remuneration associated with those costs, which totaled $36.7 million.

[5] The information in this section is based on information provided in Greenwich and Hinckle (2003) except where noted.

A limited liability company for the retail component of the project, Bay Street Partners LLC, was formed between Madison Marquette and California Urban Investment Partners (CUIP), the joint venture between MacFarlane Partners and CalPERS (Murray, 2002). It is an 80/20 partnership, with CUIP maintaining the majority equity interest. Bay Street Partners LLC arranged $76 million in construction financing for the retail project (Murray, 2002). The construction loan was structured as a three-year, interest only loan with an adjustable rate set at less than 300 basis points (or 3%) over the LIBOR rate (Murray, 2002). The financing was provided through CIBC, which then syndicated the loan to Bank One and Commercial Bank (Murray, 2002).

The housing component of the Bay Street project is owned by Bay Street Residential Partners LLC, another partnership between Madison Marquette and CUIP (Red Capital Group, 2002). An investment banking firm worked with the City's ERA to issue $66.7 million in "tax-exempt, variable rate demand multifamily housing revenue bonds" on behalf of Bay Street Partners LLC (Red Capital Group, 2002). At the time, late 2002, the financing represented one of the largest new money, tax-exempt bond issues that utilized a new bond allocation (Red Capital Group, 2002). For the affordable housing units associated with the housing component of the Bay Street project, the City provided a $1 million grant.

Strategies to Reduce Liability

The extensive environmental contamination associated with the Bay Street site represented financial and liability risks that would be fairly high on the risk spectrum, particularly for institutional investors like pension plans and university endowments. The willingness of the city of Emeryville to take on the risks associated with predevelopment remediation of the property was critical to the viability of the project for private investment. In this way, Emeryville exemplified the type of proactive stance that urban municipalities can take in order to help facilitate the redevelopment of large parcels of contaminated land in underserved communities.

In addition to taking responsibility for the remediation of the Bay Street site, the City of Emeryville limited the financial risk associated with the development remediation of the site by capping the costs associated with any further remediation of the site once the site was developed. This was structured as a reduction in the purchase price paid by the private investment entity by the amount of the additional remediation costs. Thus, the investors, including CalPERS, were protected from additional financial risk associated with the discovery of additional contamination onsite. Thus far, the costs associated with development remediation, including those associated with the environmental consultant and site monitoring, that are expected to be reimbursed by the City of Emeryville total an estimated $5 to $6 million. The city of Emeryville acquired a pollution liability policy for the retail component of the project, which was assigned to Bay Street Partners LLC.

Design

The concept for the Bay Street project was to have "a Main Street with industrial forms and materials that harken back to Emeryville's manufacturing era" (Levy, 2001). The hope for the project was that it would function as the town center that Emeryville never had - because it was too "busy carving its own smoky niche as a haven for heavy industry" (DelVecchio, 2002). The retail architects Jerde Partnership International and Charles Group International designed the project as three city blocks that would be connected by a main street (Oakland Tribune, 2002). The designers sought to create a neighborhood feel to the project by incorporating colorful plazas, tree-lined walkways, and terraces (Madison Marquette). The variation in the storefront design was intended to render an organic texture to the development, with some storefronts representing individual tenant designs and others presenting a "brick warehouse style" (Oakland Tribune, 2002).

The project is a mixed-use development designed as an urban neighborhood rather than a regional mall (DelVecchio, 2002). The retail component, which opened in November of 2002, offers a full range of local, national, and regional retail shopping tenants as well as

restaurants. Bay Street's south block is comprised of retail stores and restaurants, with an entertainment component provided by the 3,300-seat stadium-style AMC theater (Oakland Tribune, 2002). The north blocks are mixed-use, with retail on at street-level and residential units above. The residential units include over 250 apartments, about 80 townhouses, and over 70 units of affordable housing (Madison Marquette). The project will include a memorial park along Temescal Creek, which will commemorate the historic Ohlone legacy associated with the site (Oakland Tribune, 2002). The project will also include a 250-room mid-rise hotel, which is expected to open in 2005 (Madison Marquette). To accommodate the traffic that the project is expected to attract, Bay Street offers 1,900 parking spaces (Madison Marquette).

Market Acceptance

As of July 2003, the Bay Street project's retail component was 81% leased with about 87% of leases either signed or under negotiation. The list of retail tenants represents a solid line-up, including such well-known retailers as Barnes & Noble, which took a 32,000-square foot store, "Williams-Sonoma, Pottery Barn, Pottery Barn Kids, Talbots, Ann Taylor Loft, J. Jill, Chico's, Banana Republic, Express, Victoria's Secret, Gap, Old Navy, Reference Clothing Co., Body Shop, AT&T, Franklin Covey, Aaron Brothers, Sunshade, Bath & Body Works, Sunglass Hut, Godiva, Magnolia Hi-Fi, Aerosoles, Cold Stone Creamery and Hot Cups" (East Bay Business Times, 2002). The success of the Madison Marquette leasing team in attracting a critical mass of national, credit tenants despite softening in the economy attests to the strength and magnitude of demand for retail within the Emeryville market and surrounding communities.

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MacFarlane Partners

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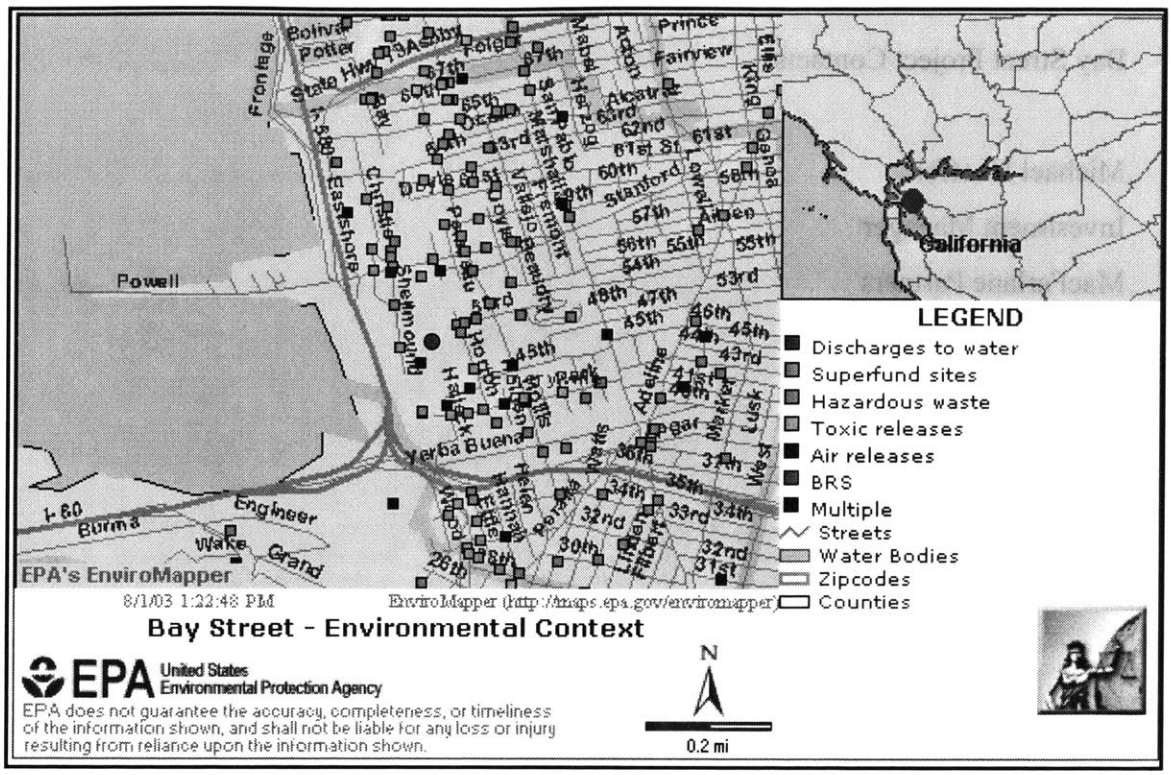
Senior Project Manager
MacFarlane Partners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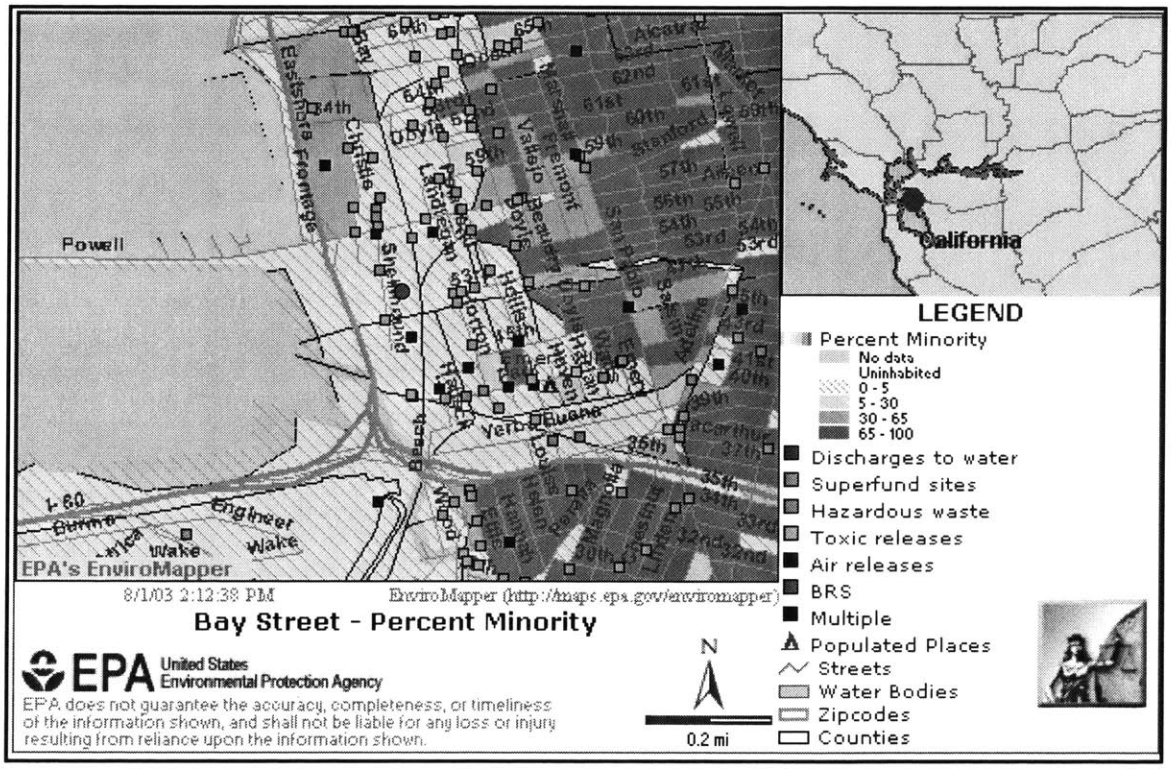
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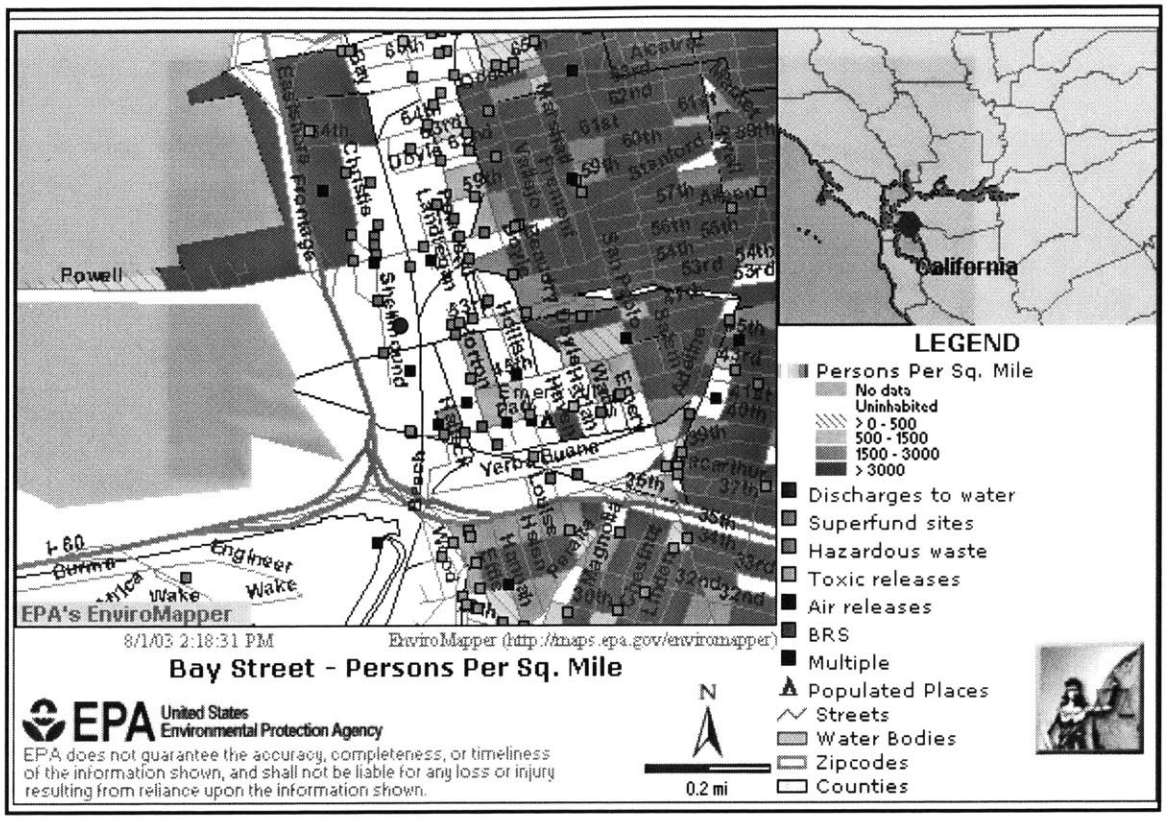
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Bay Street - Persons Per Sq. Mile
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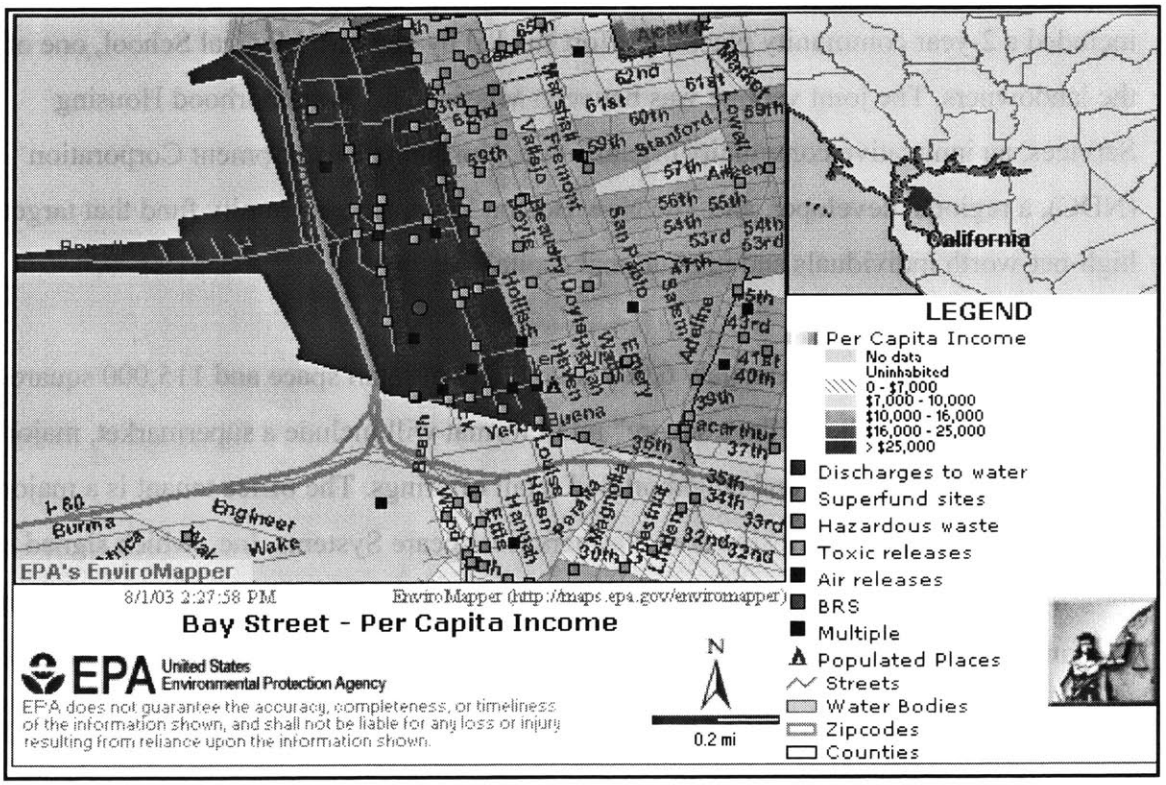
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**One Brigham Circle – Boston, MA**[6]

Project Description

One Brigham Circle is a new, mixed-use development in the heart of the Boston neighborhood of Mission Hill, an infill community with an ethnically diverse residential base. The project was the result of an almost 10-year development process, which included a 2-year community planning effort funded by Harvard Medical School, one of the landowners. The joint venture was between Mission Hill Neighborhood Housing Services, an innovative community organization, Northland Development Corporation (NDC), a regional developer, and The New Boston Fund, an opportunity fund that targets high-net-worth individuals and institutional capital.

The project includes approximately 6,000 square feet of retail space and 115,000 square feet of office space. The "village square" retail format will include a supermarket, major drugstore, bank branches, and neighborhood retail offerings. The office tenant is a major medical institution in the Boston area, Partners Healthcare Systems, Inc., which signed a long-term lease, creating a continued link between the medical institutions that anchor the economy of Mission Hill and is a significant force in the Boston economy as a whole.

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[6] Picture source: Source: http://www.high-profile.com/2002/nov/1BrighamCircle.htm

## Site History

For almost thirty years, the community of Mission Hill asked, "What is Harvard going to do with the Ledge Site?" (Mission Hill Neighborhood Housing Services (MHNHS), 1995). The Ledge Site, together with the Calumet Site, form one corner of the "front door," known as Brigham Circle, to the Mission Hill neighborhood of Boston, Massachusetts. Brigham Circle is formed at the intersection of Tremont Street, Calumet Street, and Huntington Avenue, which serves as the "Route 9" entrance to Boston (MHNHS, 1995).

Brigham Circle was "once a thriving and vibrant commercial and retail center for the community," but by the early 1990s, its role as the traditional town center had waned significantly (MHNHS, 1995). The largest portion of the property was generally referred to as the "Ledge Site." The Ledge Site was acquired by Harvard University in 1965 and leased to Osco Drug Store, Sterling Cleaners and Laundromat, and a Bank of Boston branch (MHNHS, 1995) As a community meeting place, Brigham Circle had transformed from the "village square" to the "Osco parking lot."

Much of the Ledge Site, which had been designated an "Urban Wild" by the Boston Redevelopment Authority in the 1970s, was sectioned off by fencing (MHNHS, 1995). The fenced portion, primarily near the corner of Huntington Avenue and Tremont Street, was considered in a local news report to be a "wilderness where only the homeless dared to tread" (Anand, 1996).

The Calumet Site, a connecting parcel that fronted directly on the Brigham Circle intersection, was the location of a former meat market. By the early 1990s, the building on the parcel was occupied by three businesses that had been in operation for a number of years, including a coffee shop, a bank, and a neighborhood market. The Siegel family privately owned the parcel.

Neighborhood Context

Mission Hill is a working class neighborhood that was built on the historic Parker Hill, "a rocky drumlin left behind by a prehistoric glacier" (MHNHS, 1995). Much of the One Brigham Circle site functioned as Coleman's Quarry, where grayish rock called puddingstone was extracted by the ton for use in constructing twenty three church buildings in the city of Boston during the late 1800s (Palmer Jr., 2002). Coleman's Quarry was well known for its puddingstone contribution to the twin-spire basilica of the Mission Church, dedicated to Our Lady of Perpetual Help, which "dominated" the neighborhood landscape and eventually "defined the neighborhood as Mission Hill" (The Bostonian Society, 2001).

The Mission Hill neighborhood is "squeezed between" the Boston areas of "Jamaica Plain, Roxbury, and Brookline"(McKim, 1997). The approximately 15,000-person community was severely impacted by the suburban flight and urban renewal programs of the 1960s and 1970s (Anand, 1996). Urban renewal programs implemented by the city of Boston deeply scarred the neighborhood, particularly the 822-unit Mission Main public housing project that the city allowed to deteriorate and "drain the economic vitality of the community and surrounding neighborhood" (Fannie Mae).

The community was further hurt by the expansionary acquisitions of real estate by the medical and educational institutions that dominated the area. The Longwood Medical Area, across Huntington Avenue from One Brigham Circle and one of the largest medical and educational centers in the country, consists of sixteen institutions, nine of which are either Harvard Schools or Harvard-affiliated teaching hospitals (MHNHS, 1995). The speculative acquisitions of real estate by medical and educational institutions during the 1970s and 1980s resulted in an antagonistic relationship between the Mission Hill neighborhood and the institutions. One institution, the Lahey Hitchcock Clinic Medical Center, bought "scores of houses on the back of Mission Hill and left them empty," originally expecting to expand into those locations but instead allowed the vacant homes to become "a lonely pathway between burned-down houses and drug dens" (Anand, 1996).

During the 1970s, community groups fought the expansion of medical institutions like Brigham and Women's Hospital, whose original main entrance fronted on Brigham Circle, from crossing Huntington Avenue (Ortiz, 2001). The Ledge Site was on the wrong side of line drawn by community activists for institutional expansion within the neighborhood. The Mission Hill community "drew a line on Huntington and insisted on no institutional expansion across that line" (Lupo, 1995). Thus, when the building boom spread through Boston during the 1980s, the Ledge site, the "largest parcel of undeveloped land in Mission Hill" and owned by Harvard Medical, was bypassed (Anand, 1996). Harvard put the Ledge Site up for sale in 1984. Harvard's multiple development efforts for research or clinical use failed due to the low yields associated with the intended uses and community protest. In 1988, the Mission Hill Neighborhood Housing Services organization expressed interest in the site. By March of the following year, Harvard took the Ledge Site off the market in order to pursue development plans with MHNHS.

Negative perceptions of the Mission Hill neighborhood emerged during the 1980s and contributed to the lack of real estate development in the neighborhood. The Mission Main public housing project was known for having the highest crime rate of all of the city's public housing projects (Anand, 1996). In addition, the community received nationwide media attention due to the highly publicized murder of Carol DiMaiti Stuart. In 1989, Charles Stuart reported to the Boston police that, while driving home on the way back from a childbirth class at Brigham and Women's Hospital, he and his pregnant wife had been shot by a black man who jumped into their car (McNamara, 1999). The wife died, and the child, born premature, died 17 days later (Radin, 1999). In response, the neighborhood of Mission Hill was "swept through" by police and prosecutors who used "every coercive and investigative weapon" at their disposal to find the suspect based on Stuart's description (Radin, 1999). By the time the police realized that Charles Stuart had murdered his wife and child, the reputation of Mission Hill had been smeared. Between the high rates of crime that plagued the cities' inner city neighborhoods and the Stuart case, the neighborhood "had become synonymous in the public mind with crime"

(Anand, 1996).

Positive developments in Mission Hill began to take root in the early 1990s. By the late 1980s, neighborhood nonprofit groups had purchased the Lahey Hitchcock Clinic Medical Center's land and begun development of new townhouses, which lifted the community home ownership rate (Anand, 1996). By 1996, the crime rate associated with the public housing development had dropped by 50% as a result of a major police crackdown and stepped-up enforcement (Anand, 1996). By 1997, Mission Main, the notorious public housing development, was undergoing a multimillion dollar renovation (McKim, 1997). The community had begun to benefit from renewed public investment and the general boost, including rising property values, associated with the flourishing Boston economy.

Local Market Conditions

The supply of retail and office space within the Mission Hill market had not kept pace with demand by the time the economy rebounded in the mid-1990s. By 1995, the community of Mission Hill had limited retail offerings within the neighborhood. As part of the community planning process, a market study was performed for the neighborhood. The market analysis revealed that there was leakage of retail sales from the area. There was no major grocery store or supermarket, the Osco Drug store was poorly run, and the Ledge Site buildings were generally poorly maintained. To a large extent, the retail offerings on the Ledge Site were "ghetto operations" that took advantage of the limited mobility of a subsection of the Mission Hill residents by charging higher prices for products.

The study found that there was 60,000 square feet of supply of retail stores in the Mission Hill market, but enough demand to support 200,000 additional square feet (Lupo, 1995). The resident base of the Mission Hill neighborhood numbered approximately 15,000 people. However, the proximity of the medical institution cluster, primarily the Longwood Medical area, resulted in a population increase to about 45,000 people each

day (MHNHS, 1995). The medical institutions that dominated the "other side" of Huntington Avenue employed about 27,000 people, educated approximately 10,000 students, and treated 1.1 million patients annually (MHNHS, 1995). The continued growth of the Longwood Medical area transformed the relatively small Brigham Circle residential base into an economically viable trade area.

The Mission Hill community may have drawn a line for institutional expansion at Huntington Avenue, but it could not stem the growth of the Longwood Medical area. The area's reported rate of growth was an increase of 1.5 million square feet of floor area per decade (Campbell and Vanderwarker, 1995). Not only did the Longwood Medical area represent a large pool of potential customers for the retail uses proposed for the One Brigham Circle Project, it also represented a pool of potential tenants for the office space. As such, the Longwood Medical Area was able to function as an anchor to the One Brigham Circle development, attracting retail customers and offering office tenants that would stabilize the project.

Two surveys were conducted as part of the market study evaluation of Mission Hill. A shopper survey was performed for which there were 258 respondents, of whom about half were residents and the other half were affiliated as a patient or employee with Longwood Medical (MHNHS, 1995). The other survey was conducted exclusively with employees of local medical institutions, for which there were 383 respondents (MHNHS, 1995). The results were as follows:

| Merchandise Category | % of Respondents | Type of Store |
|---|---|---|
| **Shopper Survey** | | |
| General Merchandise | 40% | Clothing, Shoe, Department, Bookstore, "Galleria-type" |
| Food Markets | 29% | Supermarket, "Well-rounded grocery market" |
| Restaurants | 15% | Sit-Down restaurant/Prepared Foods |
| **Employees of Local Medical Institutions** | | |
| General Merchandise | 45% | Department, Clothing, Shoe, Pharmacy |
| Restaurant & Food Uses | 25% | Sit-Down restaurant/Prepared Foods |
| Recreation, Hobby, Entertainment | 20% | Bookstore |
| Grocery | 12% | Supermarket, "Better grocery" |

Source: MHNHS, 1995

The community planning process and eventual leasing of the One Brigham Circle project reflected the community desires for an enhanced retail offering in the Brigham Circle area. The new development offered the scale and quality necessary to attract a customer base well beyond the Mission Hill residential base, which would enable the developers to lure credit tenants to the development, further promoting the financial viability of the project.

Site Remediation

Haley & Aldrich, Inc. performed an environmental site assessment for the Ledge Site. The geotechnical and environmental consulting firm was hired by Harvard Medical School to perform the evaluation in 1994 and 1995. Four test borings were drilled into the ground of the subject site, and groundwater monitoring wells were installed for the purpose of obtaining soil and groundwater samples (MHNS, 1995). According to Haley & Aldrich, the findings of the assessment were "not dissimilar to those encountered at urban sites having similar site usage."

The Haley & Aldrich report revealed that the lower portion of the site had experienced environmental contamination associated with past and existing uses on-site. The soil samples revealed elevated levels of petroleum in the vicinity of an underground fuel oil storage tank and behind the dry cleaning facility. The soil and groundwater samples revealed elevated levels of chlorinated solvents in areas of proximity to the dry cleaning facility. The Massachusetts State Department of Environmental Protection (DEP) was contacted regarding the findings. In addition, Haley & Aldrich recommended the removal of the fuel oil tanks, both underground and aboveground, that were no longer in service.

The former quarry area, in the upper portion of the site, was not found to be environmentally impacted. A test porting in that section of the site produced soil samples that did not have elevated levels of contamination for soils located in a residential area.

Further environmental evaluations of the site revealed that the release of chlorinated solvents had penetrated the bedrock and migrated offsite. Given the extent to which the contaminants had migrated offsite, it was not financially feasible to exhaustively treat the groundwater contamination. The residents of the state of Massachusetts are on a public water supply, and do not rely on groundwater for drinking water. However, the Mission Hill area of the city of Boston does have a combined sanitary sewer and storm drainage system. According to the standards for reportable concentrations for soils located in a residential area set by the Massachusetts DEP, the migration of the groundwater contamination due to chlorinated solvents did not pose a significant public health risk. The contaminated soil was extracted and hauled to a licensed facility. However, there were unexpected costs that exceeded the remediation costs to treat the soil associated with digging the holes for the foundations for the new buildings. The costs associated with "dewatering" the holes and treating the water prior to discharge into the storm drainage system resulted in unanticipated remediation costs.

The entire remediation cost for the new development was about $200,000. The remediation took less than one year to complete and was able to be performed concurrently with the development process. NDC filed a remediation action measure

(RAM plan) and produced a final report, which was submitted to the Massachusetts DEP. A closure letter was filed with the DEP.

Financing & Investment

The development process for the project began in 1989, when MHNHS approached Harvard Medical regarding the project. MHNHS had established a reputation within the community for its efforts to stabilize Mission Hills deteriorating housing market in the wake of urban renewal and suburban flight (Lupo, 1995). Harvard had sustained successive failures in its attempts toreceive community approval for its development efforts, and had finally approached the community. MHNHS organized a committee to develop and extensive planning process that would allow the community to "define its development objectives for the Ledge Site" (MHNHS, 1995). Harvard contributed approximately $128,600 to the community planning effort, which culminated in an extensive development plan (MHNHS, 1995). Harvard negotiated to sell the Ledge Site to MHNHS for $2 million. After the community planning process was complete, MHNHS released a request for proposal (RFP) for the project.

One of the architects that had participated in the community planning process was interested in responding to the RFP, and contacted NDC as a partner. At the time, NDC 's portfolio was concentrated in the Boston suburbs and the firm's management was interested in expanding the portfolio into "the city." The proximity to the Longwood Medical area attracted NDC to the One Brigham Circle project, but the developer's recognized that "the inherent risk would be to find a user" to anchor the retail component of the project. While there were several developers that responded to the RFP, NDC was the only one that largely accepted the development plan that the community produced. NDC recommended the inclusion of the Calumet site, a adjoining parcel that was not owned by Harvard but fronted on Brigham Circle. MHNHS and NDC negotiated a partnership agreement such that their respective partnership interests would be taken down on a pro rata basis. Thus, the interests of the partners would be aligned during the decision-making process for adding any new partner.

NDC then went to the market to find an equity source. The primary focus was to find a capital source that could provide the equity and the debt to finance the project. NDC had no personal equity in the deal. The New Boston Fund offered "one-stop" shopping for the project. The New Boston Fund is a Boston-based regional real estate investment and development firm owned by the Rappaport family. The New Boston Fund was willing to provide the initial commitment to fund the predevelopment costs, fund the balance of the equity for the project during the development phase, and place the debt. For The New Boston Fund, the One Brigham Circle represented a $49 million project in the heart of Boston that would enhance their opportunistic portfolio and fit well within its infill development strategy.

The land costs for the project were approximately $4 million. The 9.5 acres of land that consisted of the Ledge Site was prenegotiated at $2 million, with no escalation in price as the development process continued over a ten-year period. The 10,000 square feet that comprised the Calumet Site was also priced at about $2 million, which was negotiated with the Siegel family. The buyout of the existing leases cost an estimated $1 million.

Strategies to Reduce Liability

In order to mitigate liability, NDC acquired pollution legal liability insurance (PLL). NDC was able to procure long-term coverage with the right to renew. PLL products were readily available and competitively priced. Since One Brigham Circle project was a less than $1 million project, NDC did not pursue cost cap insurance. Such a policy was deemed too expensive for the size of the project and extent of the remediation.

Design[7]

Brigham Circle has historically functioned as the gateway to Mission Hill. The design for the One Brigham Circle project sought to recognize that role by creating a "landmark" structure that would visibly identify its importance as a major commercial node. The two

[7] The source for this section was a One Brigham Circle brochure provided by NDC Associates.

main buildings are joined by a "Grand Stairway" that connects to a public plaza that fronts on Brigham Circle, the Lower Village Square. Building heights, setbacks and materials were incorporated into the project's design to facilitate blending with the existing neighborhood context.

Tremont Street, Mission Hill's traditional "Main Street," was lined with glass retail storefronts. In order to promote the vitality of the retail sections, architectural metal awnings and banners were incorporated into the building façade. Red brick, enhanced with precast concrete details, predominates the second and third floors. The proportions of the punched window openings were designed to be complementary to that of other buildings in the vicinity. Glass predominates the fourth floor of the building along Tremont Street, which is set back, in order to reduce the visual impact of the building. The pedestrian orientation of the project is emphasized by the verticality of the first three levels of the building. One Brigham Circle blends in with the three-story row house architecture that characterizes the Mission Hill neighborhood. The project has 30-ft column bays, which are "accentuated on the façade together with angled bays" that give the façade a "row house rhythm."

Market Acceptance

During the early- to mid-1990s, when NDC began searching for a tenant, the targets were financial firms. The healthcare industry was struggling with the implications of the healthcare policy changes that had been proposed under the Clinton Administration. The healthcare industry seemed to be moving more towards contraction than expansion. In contrast, the financial services industry was experiencing strong growth. However, the "Putnam's and Fidelity's" of the Boston area were not considering infill locations, and a neighborhood like Mission Hill was considered "iffy" due to the stigma associated with the Stuart murder and perceptions of high crime rates associated with public housing.

However, by the late 1990s, the healthcare industry had rebounded and many of the institutions in the Longwood Medical area were experiencing substantial growth in their research coffers. From 1997 to 2001, the Children's Hospital, one of the 21 institutions in

Longwood, had experienced a 50 percent increase in its research funding, to $100 million annually (Kowalczyk, 2001). The leasing strategy began to target the tenant base that was most complementary to the project, medical institutions. By 1999, a letter of intent had been signed with Partners Healthcare Systems, Inc. for the office space. Partners HealthCare Systems, Inc. had signed on for all of the 116,500 square feet of office space at the site in mid-2000. It took about three to four years to find a tenant to the project that would enable the developers to attract capital. The signing of the Partners lease was critical to the viability of the project.

Partners took occupancy of the office component of the project during the spring. NDC and The New Boston Fund were able to negotiate long-term leases with major tenants for large retail spaces in the project. Stop & Shop, a national grocery chain, signed a 20-year lease for a 38,000 square foot tri-level store. Walgreens, a national drugstore chain, signed a 40-year, 13,000-square foot lease for a two level store. The development will also include two bank branches, a 4,300 Citizens Bank branch and 3,400 Fleet Bank branch. By March 2003, the One Brigham Circle project was more than 90 percent pre-leased.

Brigham Circle Project Contact:

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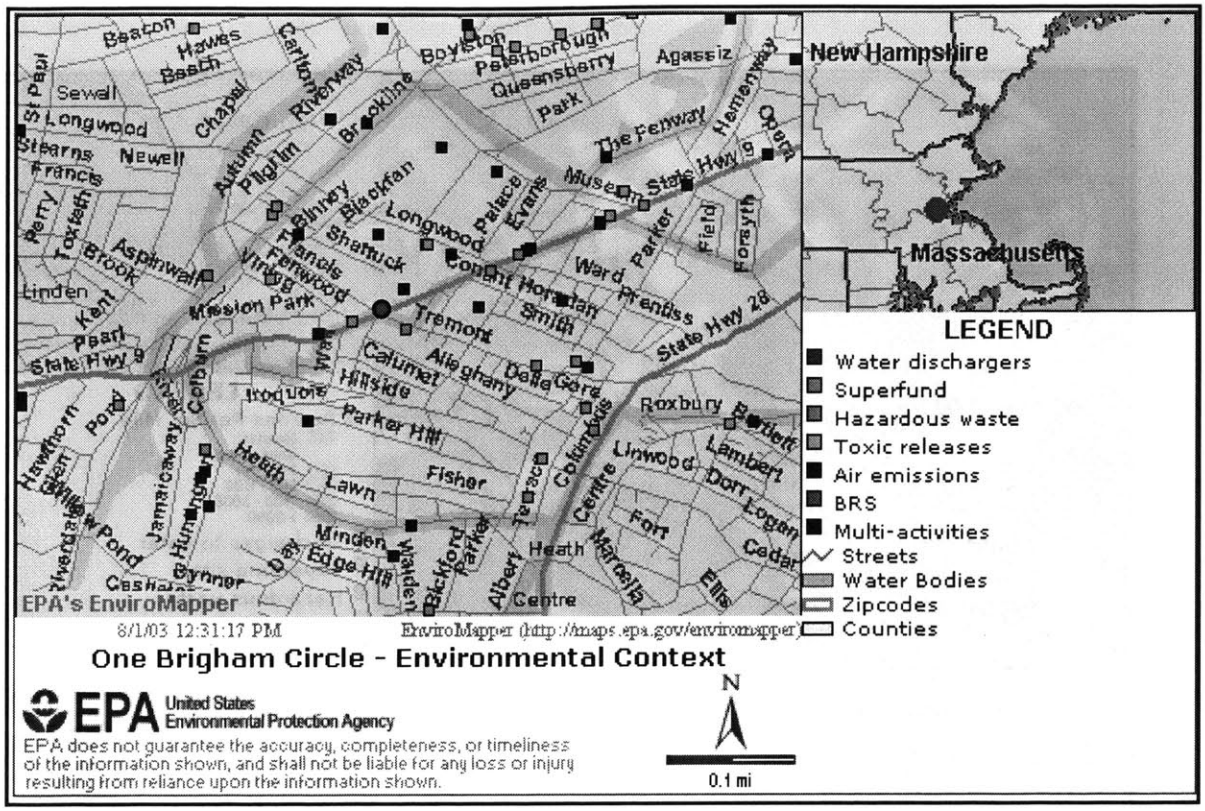
John Dragat
Senior Vice President
NDC Development Associates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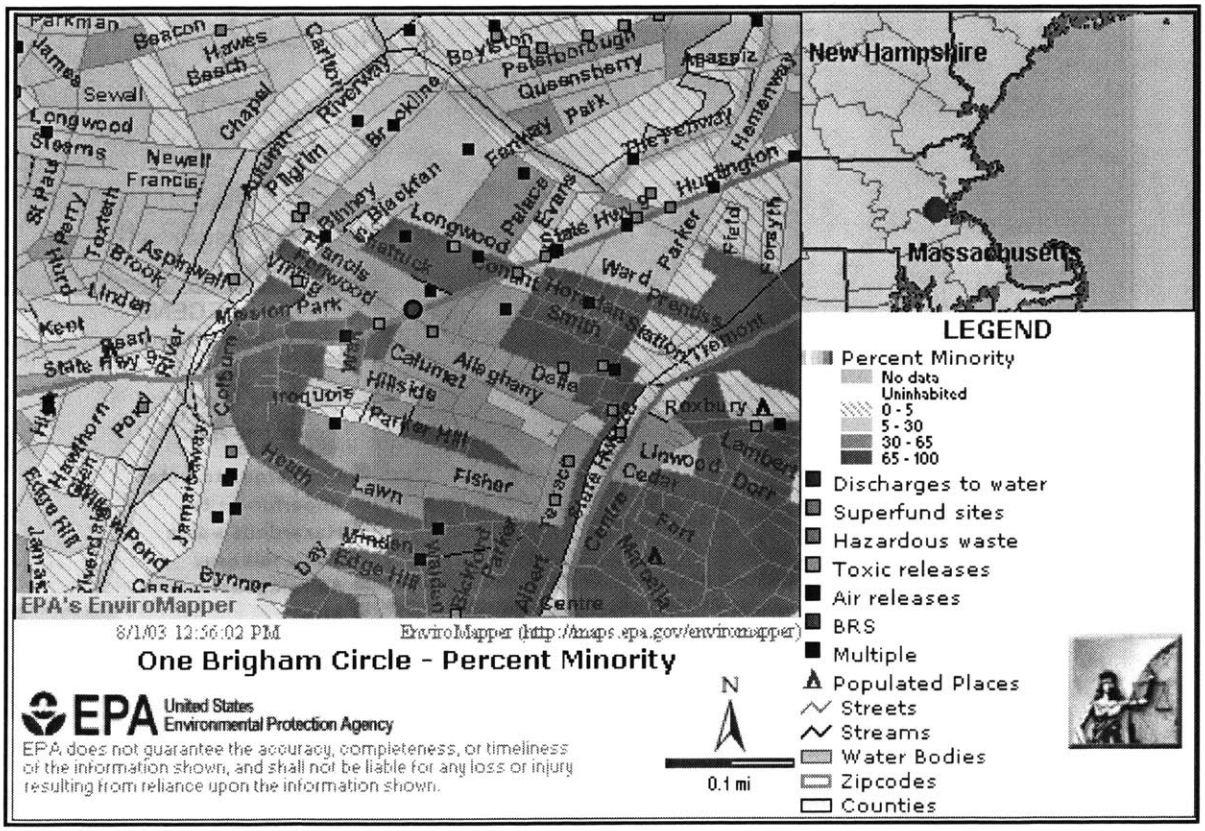
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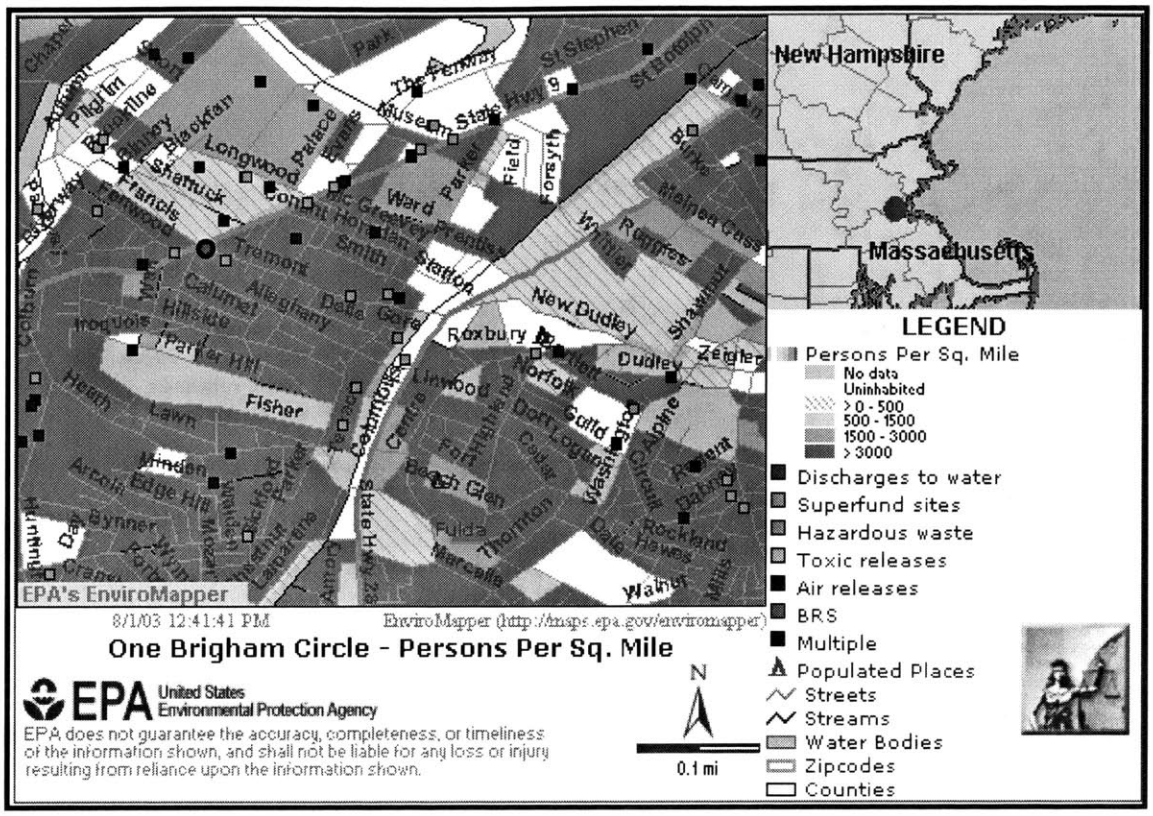
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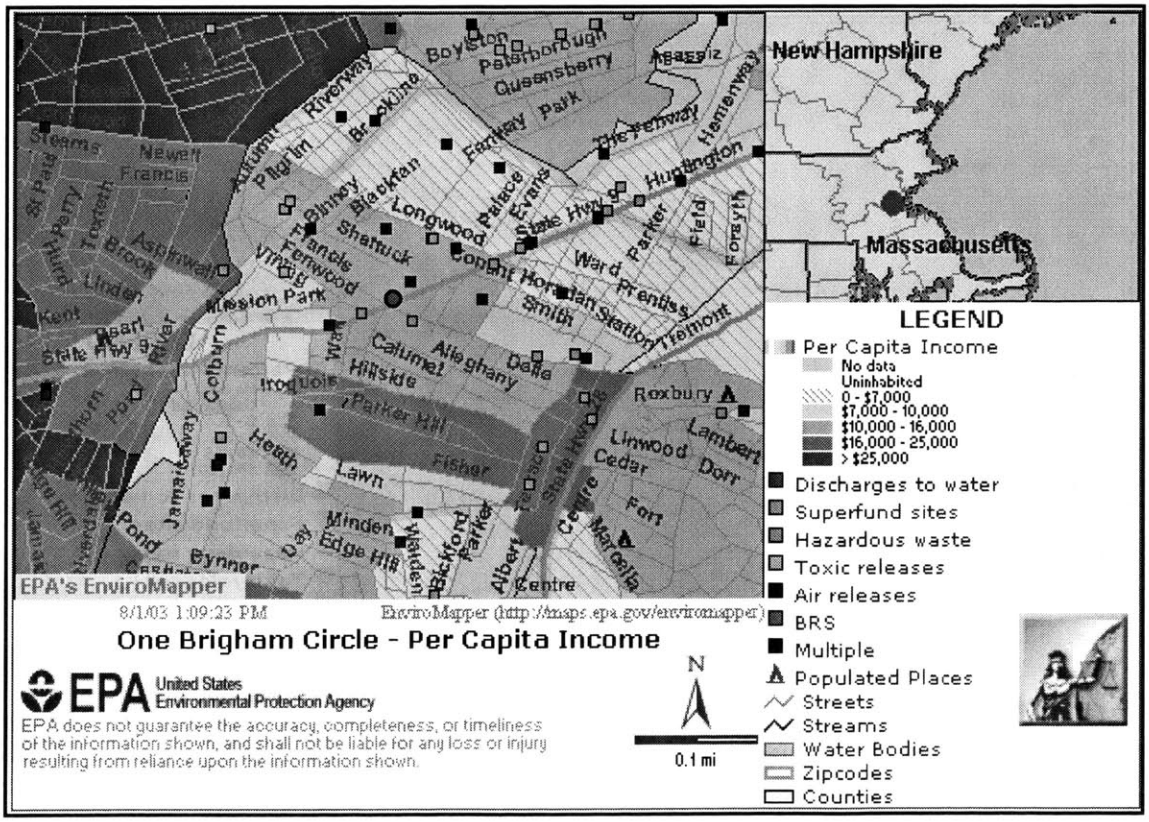
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## Chapter VII: Analysis

The case studies included in this thesis clearly demonstrate the importance of strong real estate fundamentals for success in brownfield redevelopment. Both transactions occurred in urban core markets where there was pent-up demand for real estate redevelopment due to a historic lack of private investment in real estate within the community. In the Brigham Circle case, redevelopment of the brownfield site was primarily hindered by strained relations between the institutional owner of the land and the community, a general lack of equity investor interest in the largely low-income and minority neighborhood that had negative associations with crime, and an area in which institutional landowners had allowed property conditions to deteriorate. In the Bay Street case, the extensive environmental contamination associated with the site, as well as negative perceptions of struggling, low-income and minority communities in the urban core, contributed to the lack of investor interest in redeveloping the site.

However, the market fundamentals were strong in both cases. There was pent up demand for office space fueled primarily by the medical and educational institutions that dominated the area on the other side of Huntington Avenue. In addition, there was unmet demand for retail uses that catered not only to the existing residential base but also to the large office and medical facility population. As a mixed-use project, the office component could act as an anchor to the retail uses, thus ensuring an institutional presence that would draw customer traffic to the retail area and serve to incorporate the Brigham Circle project within the broader framework of medical institutions in the area. The Bay Street project was driven by retail fundamentals that existed in the market: an underserved residential community and broader market where retail was under-represented. In both cases, the real estate uses were chosen according to existing demand trends and based on prudent market analysis that demonstrated the viability of such uses based on demographic and competitive trends.

Tools to mitigate environmental risk varied across the cases, depending on the extent and timing associated with the remediation. The Bay Street site had experienced substantial

environmental contamination over a number of years due to its historic accommodation of heavy industrial and manufacturing facilities. The extent of the contamination, and the regulatory framework that existed at the time, resulted in forcing the community, in the form of the city ERA, to take the lead in the predevelopment remediation of the property. The city of Emeryville took on the responsibility of assembling the parcels, negotiating with the state environmental authorities regarding the remediation standards and liability issues, funding the remediation, and seeking remuneration from previous owners. This, in addition to capping the remediation costs for the new private owners, resulted in relief of a substantial burden of the financial and liability risk associated with the Bay Street project, thus enabling an institutional "deep pocket" investor like CalPERS to take an equity stake in the project.

The One Brigham Circle project was lower on the environmental risk scale, involving contamination associated with the past dry cleaning use onsite. Since the timing and extent of the necessary remediation was relatively easy to assess, the private developer, which accessed institutional capital through an opportunity fund, was willing to take on the environmental risks associated with the remediation by acquiring an insurance policy appropriate to the site.

Community involvement was critical to redevelopment success in both cases, and the final projects represented a broad community vision for the site. As discussed above, the willingness of the city of Emeryville to take on, and limit, the costs associated with the remediation of the Bay Street site was a key component of the project's ability to access institutional capital. The city had identified the Bay Street Site as a prime location for retail use within the community. In the case of the One Brigham Circle project, the development reflected a multi-year effort to create a plan that reflected the needs of the residential community and the broader Mission Hill community that worked in the medical and education institutions located there. Previous efforts by Harvard to redevelop the site had failed due to the lack of community involvement in developing the plans. Despite the existence of strong market fundamentals supporting redevelopment to more productive use, both projects would not have occurred if not for the active engagement of

the community in helping to facilitate the process.

The scale of the two projects, and the difference in the investment structure underscores the diversity of structures available for institutional investment in brownfields in the urban core. Institutional investment in the One Brigham Circle project came through the opportunity fund investment structure, which allows institutional investors to have an allocation to opportunistic real estate equity investment in multiple properties. The opportunity fund structure accommodates institutional investors of various sizes; such that smaller pension plans are able to diversify their real estate holdings. In marked contrast, the Bay Street project represents the type of niche strategy that large institutional investors – in this case, the largest pension plan in the country – can pursue by leveraging their power within the market and in house capacity. CalPERS has excellent access to real estate expertise, including in-house staff and strategic partnerships, which enables the plan to pursue smaller, focused strategy efforts that further enhance the diversification of its real estate portfolio. Through its equity joint venture partnership, with MacFarlane Partners, California Urban Investment Partners, CalPERS is able to pursue a regionally focused strategy targeting urban neighborhoods in major metropolitan areas. The portfolio allocation to CUIP is $200 million, of which $75 million had been placed by August of 2002 (CalPERS, 2002).

The target returns on the equity investments in both One Brigham Circle and the Bay Street project are north of 15%, and perceived to be attractive even after adjusting for the level of risk associated with the projects (Hoeffel and Dragat, 2003). These returns reflect expected returns on the equity investment in the projects. Since the projects are relatively new, it remains to be seen whether the projects will deliver the expected returns over the investment hold period. However, despite weakness in the general economy, both projects demonstrated significant market strength by achieving high leasing levels. One Brigham Circle was over 90% leased for the entire mixed-use project as of March 2003, and the retail component of Bay Street was over 80% leased as of June 2003. The developers expressed optimism regarding their expectations of achieving the target returns.

## Chapter VIII: Conclusions

The case studies included in this thesis did not represent a scientific sample of the scale, geographic range, and economic benefits of institutional investment in brownfields in urban core locations. Rather, the inclusion of the case studies was based on available information. While one must be cautious in drawing conclusions based on such a small sample, it is worthwhile to consider what the implications may be for future trends in institutional investment in brownfields in urban core communities. Furthermore, such trends may have important implications for urban communities of color that are burdened with brownfield sites.

The change in the regulatory framework may contribute to more institutional activity in equity participation in brownfield developments. The recent nod from the federal government signals a substantial break from the stance that the federal government took when CERCLA was enacted. This demonstrates interest on the part of the federal government to help facilitate redevelopment efforts that will contribute to the cleanup of environmentally contaminated sites and the return of underutilized or abandoned sites to productive use. The recent federal legislation has empowered state agencies to help facilitate brownfield redevelopment in accordance with appropriate standards, which in turn has enhanced their position to foster brownfield redevelopment. The change from a primarily adversarial stance towards "innocent" buyers to more of a partnership stance has contributed to a more favorable context for institutional equity investment in viable brownfield projects.

The availability and competitive pricing of risk transfer tools over the last decade have contributed to a broadening of the brownfield investor base (Meyer, 2003). Current market conditions indicate that there is less availability of cost cap insurance policies, and that such products are more expensive than they had been during the late 1990s, while pollution liability policies continue to be competitively priced (Meyer, 2003). The availability and pricing of environmental insurance products overall is significantly

improved versus ten years ago, and has gone far towards diversifying the pool of investors, including institutional investors such as pension plans and university endowments, that are willing to pursue real estate projects that involve contaminated land (Meyer, 2003). The availability of pollution liability insurance at a competitive price enabled the equity partners in the case studies to achieve an acceptable degree of comfort with the liability and financial risk associated with their respective brownfield projects.

Recent increases in the general tolerance levels for environmental risk amongst institutional investors bodes well for urban core communities burdened with environmentally contaminated property. The zero tolerance policies that dominated institutional real estate portfolios during the 1980s no longer prevail amongst major pension plan investors. Political pressures associated with increasing public awareness of the negative impacts of suburban sprawl and the benefits of smart growth policies may lead to more focus on opportunities for redevelopment in urban infill locations, particularly amongst high profile institutional investors. The broadening of the investor base for brownfield projects has resulted in a wider range of investment vehicle options, from equity joint venture partnerships to opportunity funds, for small and large organizations. Over time, brownfields should become more of an integrated part of the real estate investment universe, and part of the full range of real estate equity investment opportunities along the risk spectrum.

If that happens, many communities of color in the urban core that have been historically overlooked for private real estate investment should be well positioned to benefit from the renewed attention. Due to a host of factors, many communities of color in the urban core have held a disproportionate share of the country's environmentally contaminated land, and have suffered from the lack of private real estate investment, particularly amongst institutional investors, who have the capital to fund the equity costs associated with large-scale projects. In addition, there has been a significant increase in the pipeline of niche joint venture partners who have demonstrated particular expertise in developing real estate in ethnically diverse communities and underserved urban markets. The rise in such partners may go far towards getting institutional investors comfortable with

investing in markets in which the demographic profile differs significantly from the profiles of the suburban markets that dominated their portfolios in years past. Both of the case studies included in this thesis involved regional players, NDC Associates and MacFarlane Partners, that were able to appropriately analyze the markets under consideration and navigate the local community approval process. The fact that both of the communities were areas where a substantial portion of the population were people of color and low-income residents attests to the fact that real estate projects in urban core communities of color can be economically viable and offer attractive risk-adjusted returns.

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